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POST DATE

01/09/2022

ISSUE NUMBER

JEHRHE #8

SECTION

Reviews

KEYWORDS

Electricity; Gender; Labor

DOI

in progress

TO CITE THIS ARTICLE

Trish Kahle, "Electrifying Mexico: Technology and the Transformation of a Modern City (Diana J. Montaña, 2021)", *Journal of Energy History/Revue d'Histoire de l'Énergie* [Online], n°8, published 01 September 2022, URL: energyhistory.eu/en/node/296

Electrifying Mexico: Technology and the Transformation of a Modern City (Diana J. Montaña, 2021)

Bibliographic reference

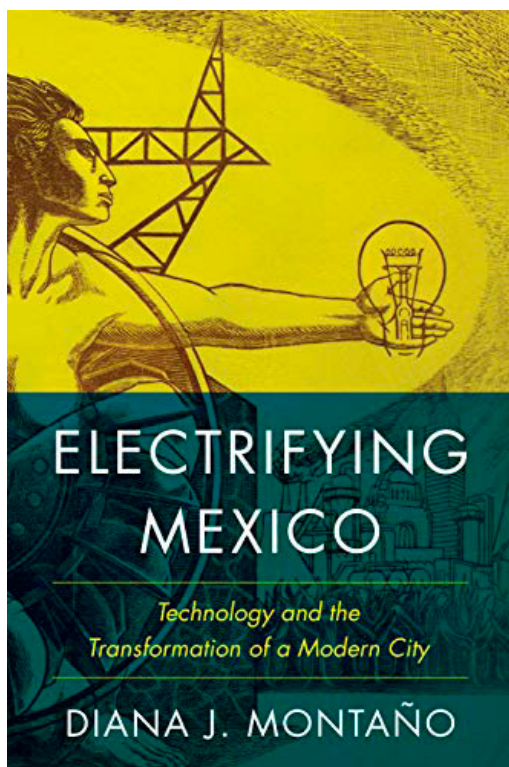
Diana J. Montaña, *Electrifying Mexico: Technology and the Transformation of a Modern City* (Austin: University of Texas Press, 2021)

Abstract

Diana J. Montaña's *Electrifying Mexico* is a cultural and social history of electrification in the Mexican capital between 1880 and 1960. She adopts a user-centered approach to place ordinary people at the center of the story of electrification, showing how technological diffusion was a contested and multi-directional process. Incorporating histories of technology, gender, race, class, law, and labor—as well as a creative and varied source base—Montaña reconstructs electrification from the bottom-up and offers several methodological contributions for energy historians to build on.

Plan of the article

- Becoming Electrifying Agents
- Social Conflict as Electrification
- The Cultural Life of Energetic Experience
- History of Energy / History of Technology



BECOMING ELECTRIFYING AGENTS

- 1 Diana Montaña's *Electrifying Mexico* shows how a diverse tapestry of *capitalinos* (residents of Mexico City) shaped the electrification of their city between 1880, when electrification began in earnest, and 1960, when Mexican president Adolfo López Mateos nationalized Mexlight, bringing the nation's largest electric utility under state control after decades of foreign ownership that had drained the nation's wealth through the seemingly banal, though fiercely contested, rate payments of ordinary people—or, as she terms them, “electrifying agents”.¹
- 2 Using a wide and creative range of sources, she gives this title of electrifying agent to people usually cast as consumers. In the Mexican context, this contribution is particularly important because it also demands energy historians and historians of technology revisit widespread assumptions about the character of the diffusion of energy technologies from Europe and the United States to the rest of the world.

¹ Diana J. Montaña, *Electrifying Mexico: Technology and the Transformation of a Modern City* (Austin: University of Texas Press, 2021), 256-257.

Technological diffusion is not a one-way process in *Electrifying Mexico*. Instead, Montaña takes seriously the way that the demands, aspirations, fears, and expectations of *capitalinos* were part of a transnational conversation about the development of electrical technology for cities around the Atlantic—Mexico City alongside Paris, London, New York, Naples, and New Orleans.

If she takes as her task emphasizing the agency of ordinary Mexicans in the making of electrical modernity, this move should also prompt scholars who work on the United States, Canada, and Europe to revisit their understanding of electrification in the countries who often exported electrical technology and capital investment. How did participation in or support for electrification elsewhere shape the electrical modernities of the countries we normally think of technology diffusing outward from? The methods Montaña deploys to understand Mexican electrification gives us new places to look, and new ways to ask the question. 3

The book proceeds in six chapters spread across three parts. Part one shows how electricity, and particularly electric illumination, arrived in Mexico City. The gradual adoption of electricity, especially electric lighting, was not merely inserting outside technology into a new context. Although an electric light demonstration had taken place in Mexico City in 1850, political crisis meant that the technology only arrived in earnest after 1880, as the consolidation of liberal political power fractured the hold of the Catholic Church over the city. As electricity arrived, the built environment of Mexico City was rapidly transforming: the city's center underwent a dual process of secularization and liberal rationalization, while at the city's edges private enclosures of farmland extended the urban zone. Waves of new arrivals contributed to a rapid growth in the city's population that shattered old ways of living in the city. It was a contingent landscape open to the kind of experimentation that learning to live with electricity required. Electricity was a part of making the city modern in the liberal vision, and equally, the changing city and its residents shaped what electrical modernity would mean. 4

5 The adoption of electric lighting was neither easy nor assured, nor were *capitalinos* passive receptacles for the technology. They complained when too-bright electric lights made it physically painful to move through the uneven darknesses of the nighttime urban landscape. The early brush arc lights called into question long-accepted hygiene practices and changed perceptions of luxury. Electrification was an unequal affair, as Montaña's reconstruction of the birds-eye view of urban illumination as it changes over time makes clear. Illumination, in this telling, is not simply reduced to a map of wealth and poverty. Adding important texture and depth to a growing body of scholarship which examines urban lightscapes, she shows how the real people who navigated the urban nightscape could also move between these zones of illumination, not a binary of darkness and electric light, but an array of turpentine and oil lamps, places where energy forms mixed.² Nonetheless, as electrification entered its second decade, illumination—and lack of it—had strong class connotations. Class anxieties about the meanings of darkness mixed with lived class experiences that crossed through the different zones of illumination. If this sounds haphazard, it was. By the turn of the 20th C. municipalities were forced to mediate the “material realities” of electrification with rapidly changing social and cultural expectations.³ Conflict, contestation, and mediation were not responses to electrification, they were electrification. That was true even as spectacles of light gave *capitalinos* a shared belief in electric illumination as evidence of modernity and progress.

SOCIAL CONFLICT AS ELECTRIFICATION

6 This insight, that electrification was produced not by technological prowess later interrupted

² See, for example, this journal's special issue on lights and darknesses, especially Stéphanie Le Gallic and Sara B. Pritchard, “Light(s) and Darkness(es): Looking Back, Looking Forward”, *Journal of Energy History/Revue d'Histoire de l'Énergie* [Online], n°2, 2019, URL: energyhistory.eu/en/node/137, and Ute Hasenöhr, “Contested Nightscapes: Illuminating Colonial Bombay”, *Journal of Energy History/Revue d'Histoire de l'Énergie* [Online], n°2, 2019, consulted 22 December 2021, URL: energyhistory.eu/en/node/130.

³ Diana J. Montaña, *Electrifying Mexico*, 55 (cf. note 1).

and redirected, but rather that electrification was only created through social conflict, sets the stage for the second part of the book. Montaña's claim that *capitalinos* were not simply consumers, but “electrifying agents”, demands a deep dive into everyday energy practices and their larger meaning. By looking at the conflicts that arose in Mexico City over the electrification of street cars (*eléctricos*) and power theft, Montaña compellingly deploys a creative range of archival sources toward a powerful reconstruction of how ordinary people created the “electricscape” of early 20th C. Mexico City. Montaña's concept of “electrifying agents” gives conceptual heft to her focus on everyday life. Creating an electrical system capable of powering a large, complex, unequal, and segregated city was a messy affair. *Capitalinos*, acting simultaneously as individuals embroiled in their own affairs and as structural agents in a rapidly changing city, created electrical modernity by riding *eléctricos* to work (as well as getting injured by them) and by using electric light (and stealing it).

7 For *capitalinos*, *eléctricos* in a decade went from a novelty to a way of life. In the process, they came to stand for both the promise and peril of electrical modernization of the urban landscape. The perils were many, but powerfully shaped by the position one filled in the city's “electricscape”. Pedestrians caught under wheels, street vendors who lost selling spots and had their carts damaged, drivers and accident victims scapegoated for larger systemic issues in the rapid transformation of the city's transportation system.

8 The pervasiveness and persistence of the accidents worried elites deeply committed to the project of electrical modernization: “what if this progress [through electrification] was not real, substantial, or sustainable?”⁴ The *eléctricos* required people to learn new ways of living and moving in the city, not just avoiding street cars, but learning to navigate the structures of raced, classed, and gendered urbanity that they represented. But even as the electrified transit

⁴ *Ibid.*, 153.

system disciplined *capitalinos*—especially poor, indigenous, and working class *capitalinos*—the city’s residents shaped the technology and its use with their expectations of a right to rapid transport, of certain behavior by drivers, of particular social relationships between the different groups of people who together made the “electricscape” and thus made it real. Sometimes, electrical agency in the face of such peril could be gut-turning, such as when people incorporated the violence of the *eléctricos* into their personal disputes or turned it toward the concealment of secrets, hoping the “wheels of modernity” would obscure evidence and carry away problems.

9 The creation of the electrified streetcar system happened on the public roads, and there were limits to the way everyday life could shape the movement of the *eléctricos* once they were on the tracks. Electric power for homes, factories, and businesses, however, was another story. The extension of electrification throughout the capital was, Montaña shows, often informal. As electric companies like Mexlight extended powerlines, *capitalinos* substantially made the electric grid their own by “stealing” power. These were the *ladrones de luz*, captured in an array of court records, ranging from large factories and hotels to small shops, to private homes.

10 The extensive use of illicit connections to power in a large and rapidly growing city is perhaps not surprising—it’s a fact of life in any electrified landscape. In Chicago, high electric bills once alerted me to a device stealing electricity from my apartment’s connection. A friend recounted how informal connections were responsible for most provision of electricity in her family’s village in northern Pakistan, and in the absence of market transactions to govern its provision, social obligation governed instead. Mahmoud al Massad’s 2016 film *Blessed Benefit* opens against the Amman skyline with a man helping a friend illegally connect his home to electric power. “Please don’t tell anyone about this”, he implores. His friend replies, “The whole neighborhood already knows...half the neighbors did

it!”⁵ However, Montaña’s telling imbues this common practice with much larger historical significance, as a primary way in which the social norms and legal practices would be determined: Who had the right to make inspections to the use of electric power? What counted as evidence? Was stealing electricity always a crime? Could electricity even be stolen? The social norms governing electricity, and its theft, were unsettled and subjected to fierce contestation on a legal landscape that didn’t really have the tools to deal with the problem.

Seeing energy as historical invites us to a pluralistic understanding of what energy is, conditioned by its situational and epistemic context. Montaña makes very effective use of court cases to demonstrate this point. Electricity had to be created as a legal object well after it had been understood scientifically, distributed technologically, and incorporated into culture and everyday life. Prosecuting the *ladrones de luz* for electricity theft immediately presented problems for the Mexican courts. The plaintiffs claimed their electricity had been stolen. Mexican law defined theft as “the appropriation of *una cosa mueble* [a movable thing] without the right or consent of the owner”.⁶ But in the case of electricity, that was not exactly what happened. In the early years of the 20th C., Mexican judges and lawyers had to work out what it meant to steal electricity by fighting over it, case by case.

THE CULTURAL LIFE OF ENERGETIC EXPERIENCE

The final section of the book looks at the cultural life of electricity in post-revolutionary Mexico, when the idea of rights to electric power and appliances took on a much broader political meaning amid social upheaval in Mexico City, as “young girls who had once filled the ranks of respectable maids now found their financial freedom as either *ranchero* (ballad) singers or go-go dancers”.⁷ Montaña reads cookbooks, home advice manuals,

⁵ Mahmoud al Massad (Director), *Blessed Benefit* [Film] (Amman, Jordan: jo image, 2016).

⁶ Diana J. Montaña, *Electrifying Mexico*, 172 (cf. note 1).

⁷ Ibid. (paraphrasing Salvador Novo’s *Cocina mexicana*), 193.

and advertisements against the grain in order to show how race, class, and gender powerfully shaped the meaning of electric appliances, and—simultaneously—those appliances reshaped what *capitalino*'s identities meant. Advertisers rejected indigenous women, more likely to work as maids, in favor of slender, light-skinned, middle-class women who could embody the modern idea of domesticity. In the process, they actively removed indigenous women from domestic scenes where we know they were present.

13 The discourse on electric appliances also revealed anxieties around the transformation of social order. To be sure, there is a limit to what can be gleaned from these materials, which Montaña acknowledges. Cookbooks and advertising both created and responded to the social and cultural world around them, and that world inevitably was messier than the one they portrayed. Sources to capture the lived experiences of domestic workers from nearly a century past presents massive challenges, and “Zeroing in on lived experiences—who used what within domestic spaces—is a difficult undertaking”. Her meditation on the methodological challenges presented by a user-centered approach is critical for energy historians to consider as we further develop our understanding of energy at the level of everyday life, particularly its gendered aspects. Montaña makes productive use of the “quandary” her sources have created and has set an important task for energy historians who will build on her work.⁸

14 Finally, Montaña puts the *Sindicato Mexicano de Electricistas* (Mexican Electricians Union), or SME, at the center of the story of the 1960 nationalization, arguing that their influence on the process

⁸ Ibid., 232; on energy and gender, see Abigail Harrison Moore and Ruth W. Sandwell, *In a New Light: Histories of Women and Energy* (Montreal: McGill-Queen's University Press, 2021) and this journal's special issue n°6, “Home and Hearth: Gender and Energies within the Domestic Space”. Sean Adam's essay in this issue also grapples with the user-centered approach as a way into some of these issues. Sean Adams, “Making Coal Sharp: Gendered Consumers and Users of Mineral Fuel in the 19th Century United States”, *Journal of Energy History/Revue d'Histoire de l'Énergie* [Online], n°6, 2021, URL: energyhistory.eu/en/node/263.

has been underappreciated. Casting themselves as “soldiers of light”, who fought not only in defense of their own labor rights but in “patriotic defense of the nation's natural resources” the SME embraced the legacy of the Mexican revolution.⁹ The SME's publication, *Lux*, often portrayed electrical workers as masculinized producers, in contrast to the feminized sphere of energy consumption through appliances. This masculinized, patriotic, revolutionary depiction in *Lux* helped to raise the stakes of their labor struggles not just in Mexico City, but on the national stage. They turned disputes over wages and rates into a broad demand for Mexicans to control their own electric power—a claim which the electric workers felt they had a right to make, since they were the ones who had built the country's electrical system in the first place. Ultimately, when President López Mateos nationalized the sector in 1960, he did so using language that could have been taken from *Lux*—even if the SME's contributions were overlooked.

That overlooking of the SME's contributions, 15 which Montaña both corrects and explains, is not only a convenient ending point, but also a metaphor for the book's larger argument: that our histories of electrification have underestimated the importance of everyday “electrifying agents”, their anxieties about what modernity would mean for them, and their aspirations for the modernity they saw themselves as making.

HISTORY OF ENERGY / HISTORY OF TECHNOLOGY

16 Montaña's title is a conscious mirror to David E. Nye's *Electrifying America: Social Meanings of a New Technology* (1991), and it similarly mirrors its structure, down to the problems which drive each chapter. The result, far from feeling like a replica study, allows Montaña to fine tune many of Nye's formulations while raising new questions and points of departure for the field. In that spirit, I would like to end with a question focused on a productive tension evident in the book between energy history and history of technology.

⁹ Montaña, 252.

- 17 History of technology functions as Montaña's entry point to energy history. Her work is deeply engaged with the field from which she draws the user-centered approach as well as a critical attentiveness to how electricity works. Nonetheless, this is a tension that energy historians must continue to grapple with as our field expands. When is electricity a "technology" and when is it "energy"? When and how do those meanings overlap? To what effect? Under what circumstances does this difference matter for historical analysis? The form of this tension, it should be said, is not unique to the intersection between technology and energy. It appears at other disciplinary intersections particularly at the interstices of energy and environment, energy and labor, and energy and infrastructure. It is evidence of energy history's growing set of conceptual tools, rooted in a variety of disciplinary backgrounds, and yet, increasingly distinct from them.
- 18 In *Electrifying Mexico*, this tension results a point of categorical slippage. In particular, electricity as it appears in the first three chapters, which dealt with the introduction and exhibition of electric illumination and the way that the *eléctricos* transformed urban life, electricity as energy appears nearly inseparable from technological processes and artifacts. That's true even in the case of the *eléctricos*, where other modes of powering movement are available because of how substantially they transform urban space and time. In the rest of the book, electricity appears as energy—which may have technological aspects but is capable of being distinguished from them. The book thus carries a tension which in some places, like in her examination of electricity theft, is analytically very productive. The liminal status of electricity before the law is captured beautifully by its dual status as energy and technology. That very liminality also merits further historical explanation, to understand how ordinary people understand energy in the world around them, how that understanding changes over time, and how the ways of living with and knowing energy we know better (scientific, geopolitical) were shaped by everyday life. For this task, *Electrifying Mexico* is an exceptional point of departure.

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