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Roaming the traffic-jammed streets of Mexico City today, it may be difficult to imagine the lacustrine landscape in which the city was founded. Indeed, the modern capital of Mexico began as a plot of soil in the middle of the vast Lake Texcoco, artificially erected by the Aztecs and expanded by the Spanish in the 16th century. Rapid growth since the end of the colonial era—especially through urbanization which took place in the last century—has transformed what is now the Federal District into the 6th largest city in the world, and the biggest metropolis outside of Asia. The unique development of Mexico City thus cannot be fully understood without close attention to the natural environment. This is the thesis of Matthew Vitz in *City on a Lake: Urban Political Ecology and the Growth of Mexico City*. Vitz is a specialist in Latin American and Caribbean history, and Associate Professor at University of California San Diego. His book explores the social and political history of Mexico City through the lens of urban political ecology, a field that broadly studies how urban environments are produced, with particular attention to the inherent issues of politics, inequality and justice (see Heynan, 2014).

The book’s main critical analysis deals with the environmental factors that shaped power struggles and territorial codependence in and around Mexico City from the
Porfiriato era\textsuperscript{1} up to the second half of the 20\textsuperscript{th} century, and the role of this relationship in the city’s urbanization. The 1910 Mexican Revolution erupted in part over environmental inequalities promulgated by the Diaz regime\textsuperscript{2}, and its efforts to construct a sanitary city privileging service provision to the urban center at the expense of residents at the rural periphery. Vitz argues that popular politics—defined as political discourse and practice that speaks to a non-elite, often working class (e.g. “popular) citizen base—was central to Mexico City’s burgeoning environmentalism during the revolution and in the decades following. In this context, popular politics were dominated by revolutionary environmental and social justice discourse related to fair, equal access to subsistence agriculture, water services, sewage, and clean housing, among other environmental concerns.

Over the 20\textsuperscript{th} century, “ecological planning” became the means by which Mexican authorities would secure these rights for citizens. Indeed, massive engineering projects and industrial programs were legitimized through the same discourses that engaged urban and rural “popular classes” in the revolution. Implementing these ideals proved difficult, though, because elite interests clashed with the very “environmental rights” narrative they promoted. For instance, in the Mexico City’s forest land, authorities fumbled over how to reconcile economic development goals (met through industrial wood extraction) with forest conservation goals, all while appeasing local subsistence farmers making a living from charcoal and lumber. Furthermore, efforts to regulate the natural environment during a period of urban growth were entangled with rapid transformations in the city’s ecology, such as lake desiccation, salt build up, forest depletion. Thus, in order to “obtain, control and circulate” resources found in nature, Vitz argues, Mexican authorities had to fuse elements of the natural environment with those of the built environment, both materially and ideologically. While the official public narrative toward environmental rights intended to align with revolutionary principles, strategies for ecological planning always reflected a capitalist development agenda.

Ultimately, Vitz aims to show that the politics of building a Mexico City’s metropolitan environment shaped social, spatial and economic cleavages in the territory. He calls for a “ecological critique that integrates the social” to expose these inequalities, as well as the ways in which they are “reflected in and entrenched in material environments” (Vitz 2018, 234). Thus is the basis for his theoretical framework: political ecology offers a special lens through which to understand urban power, and the ways it is “exercised,

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\textsuperscript{1} The Porfiriato refers to the presidency of Porfirio Diaz (1876-1911) after he seized power from the Revolution of Tuxtepec

\textsuperscript{2} The Diaz administration prioritized planning and rational development, enforced through repression and control. For a brief review, see Bryan (1976)
reproduced, and challenged” by various groups in this context (Vitz 2018, 8). In Vitz’s analysis, an elite economic agenda in Mexico City ultimately overshadowed environmental rights discourses to the detriment of marginalized populations and the urban ecological fabric.

He draws on national archives and periodicals for historical documentation, and on (mostly) modern academic literature to support his critical analysis of the contents. Information is presented in the style of a historical narrative, making the book highly readable for a broad audience, including urban historians, enthusiasts of Mexico or Latin America, and students or experts of public policy alike. Concluding remarks at the end of each chapter help to summarize the contents—which can be detail-oriented and highly specialized at times—and contextualize relevant aspects ahead of the next section.

The book’s structure is broadly chronological with chapters organized into two overarching sections. Part I, *The Making of a Metropolitan Environment*, recounts the rise of urban sanitation as a modernizing project to fuel capitalist growth. Chapter one introduces the “urban environmental imaginary” of the Porfiriato and its relationship to national development. This concept posits a codependent relationship between nature and city, but only through the careful and controlled structuring of the natural environment by urban experts. Within this context rises an elite cohort of environmental planners with broad influence in the areas of urbanization, forestry, public health, and capitalist growth in the city. However, their technocratic agenda is contested by social and environmental forces, as their projects—built to control nature—often trigger even worse climate events (flooding, dust storms, sedimentation, etc.). The chapter serves to show how Diaz set in motion an ideological movement connecting city development with ecology that would evolve far beyond its original intention, through revolution, politics, and engineering.

Chapter two situates emerging environmentalist discourse and practices in the context of the Mexican Revolution of 1910, which sought to challenge elite rule over territories. Through this chapter, Vitz develops a spatial dynamic within his analysis, namely, a divide between the elite urban center and the agriculture-based periphery—though he seeks to show that the two are inherently bound by resource flows. Contenders for power during the revolution, such as Francisco Madero, Emiliano Zapata and Victoriano Huerta played on these spatial divisions, which were also marked by social and economic inequalities, by appealing to constituencies through environmental discourse. Here, citizen rights to access land, forests, and hygienic housing become the language of the revolution. The chapter seeks to highlight the ways in which these rights, which evolved from Diaz’s “urban environmental imaginary,” became institu-
tionalized in the revolutionary process. Namely, the new constitution defined government accountability structures related to natural resources, and established the basis for which rural and urban popular classes could “make claims on the metropolitan environment” (Vitz 2018, 77).

By the end of the Part I, the political narrative of Diaz’s sanitary city links the city’s land and waterscapes to the urban built environment. The author has made it clear that “nature” is not outside of the city. Rather, it is embedded in urban forms—and both are intertwined in politics.

In Part II, *Spaces of a Metropolitan Environment*, the author discusses political and social action around the governance, and use of, the material environment. He organizes the chapters around various environmental landscapes of Mexico City, and how popular politics—e.g. rights discourses emerging from the revolution—shaped public strategies to mitigate environmental concerns. Chapter three opens with hygiene in the city, and demands from the popular classes for access to drinking water and safe, clean living space. The tenant strike of 1922 and riots triggered by the disturbance of water supply from the Xochimilco system later that year illustrate the political fervor of this era. However, Vitz points to “counter-intuitive consequences” of the revolution: the struggle among urban working classes for sanitary living space echoed rhetoric for social ordering around clean, single-family homes (Vitz 2018, 93). In this way, the working class effectively reinforced technocratic hygienist discourse by demanding government accountability toward this ideal.

Turning to the hinterland, chapter four tracks the work of environmental planners like Roberto Gayol and Fernando Zárraga in the forest land surrounding Mexico City. Here, over-extraction of wood from local dwellers was seen as an imminent threat to urban hygiene. Invoking earlier ideas from Miguel Ángel de Quevedo, planners reinvigorated the concept of forest conservation as an imperative for public health and disaster prevention (namely, flooding and dust storms). However, this urban imperative needed to be balanced with ejidos, or landowning communities, who expected access to forest land from rights they gained from the new constitution.

In Chapter 5, Vitz traces popular politics around the changing waterscape of Mexico City. Namely, various agrarian constituencies confronted the state over rights to land as new habitable land emerged in the Texcoco lakebed due to receding waters. Meanwhile, a dust storm in 1923 served as the political impetus behind a lake reclamation project, led by then President Cárdenas³, which reshaped water and sewage infras-
ture around the basin. The program reflected a “new” political narrative, which saw a lifeblood in the fragile ecosystems around the urban environment, rather than a backward, rural wasteland. The concept was new in theory, but the approach evoked technocratic strategies of the past: Cárdenas’s projects involved carving yet more canals and drainage infrastructure to re-fertilize the lake bed, which accelerated the use of Texcoco’s water system and spread salts into neighboring farm areas. This effort can hardly be considered a buffer to dust storms, as the very over-engineering of the lake is what gave grounds for the storm in the first place.

Chapter six zooms in on the revolutionary politics of urban housing in poor settlements around the Texcoco lakebed during the 1930s, for which proximity to dust and flood-risk exposed environmental inequalities. Once again, as seen in the previous decade, demands for social justice invigorated the desire for government intervention to democratize of fair and hygienic living space. The Cardenas administration attempted to use expropriation as an instrument to fulfill this promise, though the law itself proved difficult to implement: authorities “were rarely able to ascertain who its beneficiaries would be” (Vitz 2018, 200). Vitz argues that expropriation became more of a weapon for officials to exploit divisions within settlements’ for their own advantage, rather than a tool to protect public interest.

Chapter seven follows a new techno-bureaucratic alliance through a period of intense industrialization and speculative housing development in the metropolis. The import substitution economy accelerated heavy extraction of raw materials from the hinterland, forcing agrarian residents to adapt to withering landscapes. For many, this meant moving to the city. With the PRI in power, Mexican politics swung to the right, reflecting the Porfian period. Unlike the Diaz regime, however, the PRI facilitated its urban agenda through by making “strategic concessions to popular demands” (Vitz 2018, 203). For example, peasants and workers were organized under national confederations. By appealing to popular classes in “worker’s rights” terms, however, the PRI was able to eliminate the autonomous movements from rural classes and enforce an intense, industrialist agenda that deeply withered forest land.

In Vitz’s conclusion, chapter eight, he argues that public authorities, planners and engineers of the time period covered by the book filtered environmental rights discourse through an elite agenda, which, in practice, privileged “capital accumulation” over social justice. Indeed, top officials of Mexico City continuously approached ecological challenges with technical solutions rather than facing the root causes of inequality in the federal district, including land speculation and poor resource management,
among other problems. As such, Vitz ultimately portrays Mexico City as a perfect case study of path dependency, defined here as “sticking with current planning practices even when better alternatives exist.”

Matthew Vitz’s analysis can be situated within broader intellectual debates between the urban ecology, urban history and environmental history fields regarding the relationship between humans and nature. In many accounts from scholarship in these domains, the built environment is in conflict with nature. Lefebvre, for example, defines “urban society” as the outcome of an industrial “process of domination that absorbs agricultural production” (Lefebvre 2003, 2). On one hand, this perspective posits that humans and their built society are inherently destructive toward earth ecosystems. On the other hand, it implies that the natural environment is a static, victim to this force, without a role in the transformation. Since the 1990s, scholars—especially of urban history—have sought to break from this “declensionist narrative,” and study interactions between non-human nature and the built environment beyond the fact of one encroaching on the other (Rosen & Tarr, 1994). City on a Lake directly challenges Lefebvre and other conceptions of the urbanization process that reflect this “conventional opposition” (Vitz 2018, 7). Vitz’s purpose is neither to merge non-human and human nature as one in the same, nor to view them antagonistically, but to insist on processes and exchanges between the two that shape the “metropolitan environment.”

The metropolitan environment is a physical space that embodies the dynamic and continuous relationship between nonhuman nature and the built environment. It can be understood as a “socionatural hybrid,” comprised of social, political and material matter. This analytical vantage point addresses what Melosi (2010) lamented as an “intellectual gap between humans and cities” promulgated by dualistic thinking. Precisely, “setting humans in a separate category from the rest of living things, and from the physical environment from which they emerged, clearly limits our understanding of human history” (Melosi 2010, 7). In Vitz’s perspective, as well, “Mexico City’s growth must be understood through an analysis of environmental change as well as everyday politics” (Vitz 2018, 13). Indeed, he achieves this by using the metropolitan environment as his main unit of analysis. In this way, the author contributes the conceptual tools to situate topics of power dynamics and social justice into broader environmental history scholarship in ways that steer the discourse from declensionist tones.

The author’s analytical approach offers an original framework for public policy analysis insofar as it aims to understand how environmental factors shape the policy cycle. Elements of his metropolitan environment can be compared to Ostrom and Polski’s (1999) Institutional Framework for Policy Analysis and Design (but see the develop-
ments in Ostrom, 2005). Their typology shows how institutional factors—features of the physical world, the community and the rules in use—influence the “Action Arena” where policy plays out. While Ostrom and Polski depict the “Physical and Material World” as a feature affecting the “Action Arena,” Vitz places the two squarely together within the same plane. Through this interpretation, the metropolitan environment forms the cadre in which political representations of the city both formulate and materialize.

A strong example of this appears in chapter five with Cardenas' lake reclamation project. The project sought to reconcile Mexico City’s urban-rural divide by playing to the interests of populations in both regions. The narrative of a refurbished lake promised a win-win situation: fertile land for ejido farmers, and a city safe from dust storms for urban dwellers (Vitz 2018, 159). In this example, the political, the spatial and the material work in tandem to transform the urban space. Namely, the politics of the narrative (which spoke to farmers in the revolutionary language of land rights and agricultural freedom), the inter-territorial dependencies it created by hinging on a shared geographical interest, and the resulting physical transformation of the lake and surrounding areas. By embedding these elements together, Vitz produces a logical sequence between institutional context and policy outcomes. However, the policy analysis perspective is only implicit in the book, and Vitz does not intend to build a typology, perhaps at the expense of more concrete contributions to the field of public policy.

Nonetheless, when compared to public policy scholarship, Vitz provides an original methodology to study path dependency. The historical structure combined with a fixation on the metropolitan environment proves effective to reveal the diverse ways in which past events have an immediate impact on the present environment. Precisely, the author argues that “following water, waste, dust, and forest products and other commodities, as well as urban experts and developers...we can gain a more sophisticated understanding of how urban power has been exercised, reproduced, and challenged” (emphasis mine) (Vitz, p.8). The book traces legacies of former policies and projects as they manifest on multiple scales, including through social and ecological consequences in addition to financial costs.

This breaks from mainstream policy scholarship that has tended to explain path dependency in mere economic terms. According to Pierson (2000), for instance, path dependency is anchored in the concept of increasing returns and can be explained using such language: “the relative benefits of the current activity compared with other possible options increase over time” (Pierson 2000, 252). Vitz recognizes the role of cost in policymaking—state agents did not want to reverse decades of investment—but he builds on this argument with a spatial and material dimension, echoing other authors
who have studied utilities infrastructures and the legacy of already-existing collective goods (Le Galès, Vitale, 2013). In other words, policies of a former period may continue, in part, because authorities see an economic benefit to sticking with the current course of action. However, policies also reverberate through built projects, settlement patterns, and water infrastructures, as well as through the problems and unintended consequences they create. These physical features cannot be reversed, because they are bound in the earth’s ecological systems. For instance, the Texcoco drainage project lives on in the form of new cityscapes that emerge around its receding lakebed. Furthermore, they constitute and enact political actors, the material knowledge of these groups, and their motive for action. As such, Vitz makes an important point that the inner workings of path dependence can be more effectively understood when traced back to the city’s “hybrid landscapes”—the cultural, political and material formations embedded in the urban space (Vitz 2018, 13).

Policy instruments also provide a useful vantage point to discuss path dependency in the context of this book. Lascoumes and Le Galès (2007) interpret instruments as techno-social devices which, far from being neutral, “produce specific effects, independently of their stated objectives” and “structure public policy according to their own logic” (Lascoumes and Le Galès 2007, 10). Instruments can produce specific “representations” and “problematizations” of an issue, which are shaped by the ways in which the issue is interpreted in a specific context (e.g. the “construction of agreed realities”) (Lascoumes and Le Galès 2007, 10). The “urban environmental imaginary” in City on a Lake provides an interesting case study for their framework. Precisely, once the concept of the sanitary city was institutionalized, a particular environmental rights discourse emerged in conjunction with popular demands for this ideal. Using the verbiage of Lascoumes and Le Galès, environmentalism formed the “interpretive model” through which the relationship between the governors and the governed was articulated in terms of policy, regulation and infrastructures (Lascoumes and Le Galès 2007, 11).

However, in Vitz’s analysis, the metropolitan environment is part and parcel of this dynamic insofar as the governor-governed relationship is also shaped by settlement patterns, resource flows, and inter-territorial dependencies. So he explains: “urban formations are fundamentally material but they are also cultural and political insofar as certain classes and groups of people face different environmental conditions and envision distinct—and often contradictory—uses and practices for metropolitanized environments” (Vitz 2018, 13). The governing authorities of Mexico City may have used instruments to produce representations of the city, but the diverse populations that make up “the governed” have also participated in producing the urban space. In this
way, diverse grassroots level actors share in the role of “governors” of their space to a certain extent. This non-normative lens is a rich point of departure to further explore the kinds of policy contingencies co-produced by instruments.

Politics at all levels of society are thus central to the city-building process in the book. This reflects other U.S.-based urban scholarship on the emergence of new and diverse political actors within urban policymaking processes, including community organizations, education institutions, and private corporations, in addition to the public sector (Stone, Stoker 2015). Vitz also connects scholarship in urban history with the current developments of research in urban affairs, where material and environmental contexts are taken into account for describing structural contexts of opportunities that enact collective action and political behavior (Vitale 2015; Scott, Storper 2016).

The book has the virtue of building on environmental history with the theoretical and conceptual tools to view human and nonhuman nature in a dynamic, relational manner. The author’s contributions in this area could also serve to steer the field of political studies toward a more environmentally conscious approach to policy analysis. However, the historical, political ecology framework is decidedly specific in scope. The metropolitan environment offers an intriguing and original analytical frame, but it lacks the reach to broach other, more functional information about environmental politics in Mexico City. For example, the book offers many details about legislation that justifies how environmental rights were expressed in the constitution, but features of the implementation process are not clear.

The reader does not have a sense of how projects discussed were funded, or the spatial and political boundaries of infrastructural projects. Vitz is very clear that the narrative behind ecological planning spoke to revolutionary politics (e.g. environmental rights) echoed by the popular classes. However, the physical and technical infrastructure of the projects is not discussed, nor the status of the projects after they were constructed or enacted, for example, ten or fifteen years down the line. This makes it difficult to imagine ecological planning in its phases beyond political ideation and policy formulation.

This may serve the book’s main argument to reveal revolutionary tones—and failed governance—behind ecological planning, but slightly undermines the value to readers who are not Mexican specialists. Readers who cannot place the contents of the book in a broader context may emerge with a hyper-specific knowledge of Mexico City that is detached from other important points of analysis, such as the city’s governance structure, transportation, and broader social policies, among others features of society. In other words, the book is thorough in its own scope, but readers may require additional
readings to understand the social, political, and historical context outside of ecological planning.

References


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