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Myrna I. Santiago
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INTRODUCTION

The casual traveler on tour through northern Veracruz today might never guess that in 1921 oil spurted from the area in such prodigious quantities that Mexico became the third largest petroleum producer in the world. The main economic activities along the 120 miles from Tuxpan to Tampico, part of the territory known as the Huasteca, are cattle ranching and citrus production. With the exception of the town of Cerro Azul, which welcomes visitors with a gigantic commemorative oil derrick, the fields that produced millions of barrels of crude in the first three decades of the twentieth century are nowhere in evidence. Potrero del Llano, a legendary and once immensely rich oil field, has a main street that is one block long and unpaved. Slow-moving cows ruminate in the grasslands, seeking relief from the heat and the humidity underneath scattered palms or short trees. Zacamixtle, Juan Felipe, and others are likewise small cattle ranching communities where oil ghosts roam undetected.

The observant tourist, nonetheless, can find the imprint of the oil industry in the landscape. The most obvious signs are the bright mustard-yellow *Petróleos Mexicanos* (PEMEX) posts painted with black skull-and-crossbones alerting passersby to the presence of underground pipelines. The signs admonish *PELIGRO* and prohibit "banging" and "excavating." When they are at water's edge, the signs also ban "anchoring." In former refinery towns, such as El Ebano and Mata Redonda, the oil relics are the wooden bungalows the companies built to house Mexican workers. Scattered among new concrete homes, some bungalows are crumbling. Their wooden doors are falling off the hinges and the stilts to prevent flooding are eroded and gnawed. But many more are painted in brilliant pinks, greens, yellows, and blues, surrounded by potted plants and trees recently planted, still inhabited nearly ninety years after they were built. More difficult to find is San Diego de la Mar, the location of the most notorious oil well explosion in the history of the industry, "Dos Bocas." The road begins at Ozuluama, once exclusively populated by Huastec

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aboriginals but now a *mestizo* town, but it is not marked. The crater made by the blowout is about thirty miles southeast from town, but the journey takes more than three hours because the road is only fit for four-wheel-drive vehicles. There are no signs pointing the way. Eventually, green pasture gives way to tall grass that is dry in great patches despite the rain. A white sign saying "Caution. Private Property. Authorized Personnel Only" appears along low cattle fencing enclosing the yellow grass. Something is unusual about the fence: one of the wires is electrified. Turning from the main road to follow the branch around the fence, the stench announces the enclosure is Dos Bocas. Hydrogen sulfide strikes the nostrils and the lungs hard, just as the grasses shorten to display the lake that formed in the aftermath of the 1908 explosion. No explanation is offered – no identification, no mention of whose private property the stinking lake is and who the authorized personnel might be. The "lake" is without history.

Similarly, not even the most attentive trekker could surmise that the Huasteca once was a tropical rainforest. Only the heat, the humidity, and the sweat hint of a time when the land was so thick with imposing trees and vines that the sky was obscured and the fastest route between the ports of Tampico and Tuxpan was the Gulf of Mexico. That was one hundred years ago, before oil. Today, in the aftermath of petroleum extraction, the predominant flora of the Huasteca consists of cultivated grasses and citrus – both heavily fertilized by processed hydrocarbons. The most important element of the fauna is cattle. In the twenty-first century, the Huasteca produces the primary ingredients for hamburger meat and orange juice. Oil is but a faded memory and the tropical rainforest that preceded it not even that.

This is the story of both. It is a story of oil and the tropical rainforest, fossil fuel extraction and the environment, industrial production and ecology – and revolution. It focuses on one geographical location, the Huasteca veracruzana, the first site of oil extraction in Mexico, the first site of oil production in the tropical areas of the world, and one of the most important sites of global oil production in the early twentieth century. The story takes place during the period of foreign ownership of the oil companies, 1900 to 1938, from the date when British and American oilmen decided to invest in Mexico until the year that President Lázaro Cárdenas decreed the nationalization of the industry. The period straddles, or rather, bridges two eras generally considered quite different in Mexican history, the end of the *Porfiriato*, the thiry-five years that Porfirio Díaz ruled Mexico (1876–1911), and the Mexican Revolution, both in its

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violent phase (1910–1920) and reconstruction (1920–1940).[1] The era of foreign ownership of the oil industry extended over both periods, highlighting the differences and continuities between the two.

The importance of oil to Mexican history, politics, and economics has generated a rich scholarship.[2] However, it lacks an environmental history approach. That is the singular difference between this book and its predecessors. The fundamental aim of environmental history is to locate human actions not only within their social, political, and economic spheres, but also within a network of ecological relationships.[3] That is, just as human beings interact with one another, they interact with the environment and the entire gamut of organisms and phenomena within it, what we typically call "nature." An environmental history of the Mexican oil industry, therefore, takes into account human relations as well as the interactions between human beings and the environment. To do that, it is necessary to examine the local effects of oil extraction in their social and environmental dimensions. In the case of the Huasteca, it means writing a history that centers on actors typically peripheral or neglected in the historiography of Mexican oil: indigenous people, nature, and oil workers.[4]

[1] The notion that the *Porfiriato* and the Mexican Revolution represent two completely distinct eras in Mexican history is undergoing revision in the historiography, as suggested in, for example, Eric Van Young, *Mexico's Regions: Comparative History and Development* (San Diego: Center for U.S.-Mexican Studies, UCSD, 1992); Gilbert M. Joseph and Daniel Nugent, eds., *Everyday Forms of State Formation: Revolution and the Negotiation of Rule in Modern Mexico* (Durham: Duke University Press, 1994); and Mauricio Tenorio-Trillo, *Mexico at the World's Fairs: Crafting a Modern Nation* (Berkeley: University of California Press, 1996).

[2] The classic is Lorenzo Meyer, *México y los Estados Unidos en el conflicto petrolero* (Mexico City: El Colegio de México, 1972). Other examples include Jonathan Brown and Alan Knight, eds., *The Mexican Petroleum Industry in the Twentieth Century* (Austin: University of Texas Press, 1992); Jonathan Brown, *Oil and Revolution in Mexico* (Austin: University of Texas Press, 1993); Linda B. Hall, *Oil, Banks, and Politics: The United States and Postrevolutionary Mexico, 1917–1924* (Austin: University of Texas Press, 1995); Lourdes Celis Salgado, *La industria petrolera en México: Una crónica, I: de los inicios a la expropiación* (Mexico City: PEMEX, 1988).

[3] William Cronon, "A Place for Stories: Nature, History, and Narrative," *Journal of American History*, Vol. 78, No. 4 (March 1992), p. 1352.

[4] There are few published articles about the history of the union movement among Mexican oil workers. Most appeared in the journal of the Universidad Veracruzana, *Anuario*, the defunct journal *Historia Obrera*, and four collections: *Memoria del primer coloquio regional de historia obrera* (Mexico City: Centro de Estudios Históricos del Movimiento Obrero Mexicano, 1977); *Memoria del segundo coloquio regional de historia obrera* (Mexico City: Centro de Estudios Históricos del Movimiento Obrero, 1979); *Veracruz, un tiempo para contar… Memoria del primer seminario de historia regional* (Veracruz: Universidad Veracruzana and

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The main argument this book makes is that fossil fuel extraction entailed the creation of an entirely new ecology, what I call the ecology of oil. By that I mean that the oil industry generated a specific set of changes. These were rapid and radical, roughly sequential but also overlapping, summarized under three categories: shifts in local land tenure patterns, changes in local land use, and transformations in local social structures and composition. Ensconced in these three overarching processes were a series of other changes and effects: the displacement and marginalization of aboriginal populations; unprecedented and often destructive alterations in the landscape; the formation of new social groups, cultures, and economic regimes; and the creation of pronounced differences in the human experience of nature based on newly manufactured social distinctions. All relationships in this ecological network were hierarchical by design: humans lorded over nature on principle, but distinctions among men depended on economic regimes and ideological constructs. At the dawn of the twentieth century in Mexico, the economic regime under construction was capitalism, which, coupled with American and European racism, determined the development of the oil industry. Class, nationality, ethnicity, or "race," therefore, shaped both the relationships among humans and those between humans and other living organisms and natural phenomena. The ecology of oil, therefore, denotes an integrated package of human interactions, interactions between humans and/in nature, and historical processes.

The triad of changes and their concomitant transformations and effects was no accident. The changes in land tenure systems, land use, and social formations were the product of human agency. The designers and implementers of this network of relationships were the British and American capitalists who inaugurated the oil industry in Mexico. They received support from the men of the Porfiriato, the Mexican ruling elite whose goals since the nineteenth century had been to transform Mexico into a capitalist country. The oilmen and the Porfirians thus shared the objective of controlling nature and men to generate wealth. Success in that dual enterprise was called progress. And it was good.

Within those parameters, the oilmen were immensely successful in the Huasteca. Between 1900 and 1910, they forged an extremely fruitful

Instituto Nacional de Antropología e Historia, 1989); and *El trabajo y los trabajadores en la historia de México*, edited by Elsa Cecilia Frost, Michael C. Meyer, and Josefina Zoraida Vázquez (Mexico City: El Colegio de México, 1979). The scholars who produced most of the work are Lief S. Adleson, Rebeca Nadia de Gortari, Mirna Alicia Benítez Juárez, Manuel Uribe Cruz, Alberto J. Olvera Rivera, and Leopoldo Alafita Méndez.

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partnership with the men of the Porfiriato. Both operated from an "Edenic narrative" in their interpretation of the rainforest: that is, they saw it as a "paradise," devoid of human intervention and ripe for capitalist development.[5] Thus, with the legal blessings of President Díaz and more, the oilmen turned the Huasteca into a capitalist microcosm, with a booming market economy, commodification of nature and labor, and rigid social divisions. Moreover, as segregation-era Americans and imperial Englishmen saw it, their handiwork was enlightening: they brought civilization to people and places where nothing but wilderness had existed before. They were proud "pioneers." Certainly, in constructing the ecology of oil, they were the single most important catalyst for social and environmental transformation in the Huasteca since Cortes' arrival in Veracruz in 1519.

The first change in the new ecology was the transformation of local land tenure patterns. In the Huasteca two systems coexisted uneasily until 1900: communal land ownership and private ownership. The first was most common among aboriginal people, principally the Huastecos, or Teenek as they call themselves, whereas the second was more pronounced among the local *hacendado* elite of Spanish extraction. In little more than a decade, however, the oilmen gained control over extensive expanses of tropical forest, either through outright purchase or by introducing the new concepts of leasing and royalties. In both cases, the oil companies set the stage for the displacement and marginalization of the indigenous population as the rainforest became an "oil field."

That transformation is the second component of the ecology of oil. The new owners and leasers overturned the previous ecological regimes and replaced them with industrial landscapes. Such work entailed unprecedented changes in land use, or "changes in the land" in the words of one historian.[6] As indigenous agriculture and hacendado cattle ranching made way for oil extraction and processing plants, deep

[5] Candance Slater developed the concept to analyze current discourse on the Brazilian rainforest. I borrow it because it applies to the Huasteca as well. Candace Slater, "Amazonia as Edenic Narrative," in *Uncommon Ground: Toward Reinventing Nature*, edited by William Cronon (New York: W.W. Norton & Co., 1995), pp. 114–159. The idea of Eden is a recurring theme in Western culture in general, specifically as a "recovery narrative" that longs for the idealized, mythical garden that existed before civilization, as Carolyn Merchant shows in "Reinventing Eden: Western Culture as a Recovery Narrative," in the same volume, pp. 132–159.

[6] William Cronon, *Changes in the Land: Indians, Colonists, and the Ecology of New England* (New York: Hill and Wang, 1983) was the original inspiration for the dissertation phase of this book.

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ecological change in the Huasteca became inevitable. Early technology, cyclical or unpredictable natural phenomena, and unbridled exploitation, moreover, meant those changes led to the wholesale destruction of many of the ecosystems of northern Veracruz, from sand dunes to mangrove forests, from marshes to the tropical forest, with all the implications for wildlife inscribed therein.

The extremely arduous physical task of replacing a forest with derricks and refineries involved the third process that comprised the ecology of oil: changing the social composition of the Huasteca. The companies imported labor in great quantities, spurring unprecedented population growth in northern Veracruz and the port of Tampico in Tamaulipas. The flood of immigrants rapidly overwhelmed local populations and thus completed the task of displacing native groups in number and social importance. The convergence of capitalist labor organization and European and American racism, moreover, meant that the social hierarchies the oilmen built were based on class and "race." That is, the social order in the oil industry had a specific look: European and American executives and professionals rested at the top; foreign "white" skilled working-class men were next; and Mexican menial laborers stood at the bottom. The companies distributed the rewards of oil work accordingly, with pay, benefits, and general working and living conditions improving significantly from one level to the next.

The labor hierarchy, moreover, also influenced the experience of each group in nature. The top echelons reshaped the environment to fit not only production needs, but also their own sense of aesthetics and pleasure. The oilmen, in other words, played with and in the environment. Foreign white working-class men and Mexicans by contrast knew nature through work.[7] Their experience of the environment was tied to the labor they performed outdoors every day. However, that interaction was mediated by color/nationality: foreign workers were exposed to the dangers of explosions and fires, but they were spared from other occupational hazards and from disease. Those at the bottom of the labor ladder, Mexican workers, felt the full impact of the inhospitability of the tropical forest toward humans, the occupational dangers of working with highly flammable and noxious natural substances, and the whole gamut of diseases that thrived in those environmental and social conditions. The pattern of strict "racial" segregation in housing the companies enforced

[7] Richard White introduces the concept of "knowing nature through labor" I borrow here in *The Organic Machine: The Remaking of the Columbia River* (New York: Hill and Wang, 1995), Chapter 1.

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also meant that Mexican workers and their families lived in toxic neighborhoods, exposed not only to fire but also to dangerous emissions and effluents from the petroleum plants next door. Thus, although Mexicans did the physical labor of altering the environment, they were hardly in control of nature. In their experience, the opposite was true.

However, just as relationships and historical processes are never static, neither was the ecology of oil. There were tensions inherent in the network of relationships the oilmen built and in the processes of change they set in motion. Neither men nor nature acted in accordance with the plan. Control proved difficult to achieve and maintain in both cases. Nature played its role through unpredictable oil yields, dangerous chemicals, cyclical but inclement weather, a difficult terrain, and endemic disease. Indigenous peoples resisted the loss of their lands. The local hacendado elite fought back against the oilmen to protect their interests. Workers organized militant leftist unions to demand better working conditions. And, finally, Mexico caught fire.

The outbreak of the Mexican Revolution in late 1910 magnified the tensions in the industry. In the Huasteca, aboriginals, workers, and Mexican revolutionaries of all stripes pulled in different directions, sometimes in coordination, oftentimes at odds, continuously challenging the edifice the companies were constructing. Indeed, the tug of war over oil that the Mexican Revolution started was nothing less than a struggle for the ownership and control of nature itself. The organization and conduct of the petroleum business, as well as the purpose of oil production overall, became contentious issues at the local, national, and international levels. They remained so through the decade of armed conflict and after the peace came in 1920.

In the course of the reconstruction of the country and the state apparatus that followed 1920, the Mexican revolutionary leadership brought new pressures to bear on the oil companies. They sought to wrestle control over nature from the oilmen as part of a nationalist development program based on a platform of conservation of natural resources. The result was the intensification of the conflict between the revolutionary government and the companies. Combined with the hyperexploitation of the Huasteca oil reserves, the clash between the state and the companies led to the abrupt oil "bust" of 1921 after a decade of "boom." The punishing crisis of unemployment and economic depression that ensued shook the Huasteca and awoke the entire nation to the full implications of rapid capitalist development under foreign control. Moreover, for the first time Mexico became aware of the devastating environmental effects of petroleum extraction and refining. The idea that the oil

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industry represented progress and civilization was unmasked as a cruel hoax. In the aftermath, what I call a narrative of wasteland emerged. Journalists, novelists, writers, and policy makers thereafter highlighted the destructive qualities of the oil industry above all others. Ideologically, the oil companies were on the defensive. Politically, however, they remained as strong as ever, extracting concession after concession from the revolutionary leadership over the next decade.

There was one group that resisted the oil companies, however: the Mexican oil workers. Consistently nationalist and to the left of the revolutionary leadership, the oil workers challenged the social and environmental order the industry created from the mid-1910s. Time and again they paid dearly for their defiance, punished not only by the companies but also by revolutionary leaders; yet they never stopped fighting back. In fact, confrontation became a hallmark of oil workers' culture until they made their most daring bid to unravel the ecology of oil altogether. In the mid-1930s, Mexican men sought worker control of the oil industry as an alternative to the arrangement in place. The confrontation that followed lasted four years. It ended in 1938 with arguably the single most important moment for the forging of modern Mexico: the nationalization of the oil companies. The March 19 decree immediately catapulted President Lázaro Cárdenas to the summit of the pantheon of Mexican revolutionary heroes, a place he holds to this day.

In the process, the workers' role was overshadowed. They deserve credit for the nationalization of the industry, however. In challenging the oilmen for decades, the workers embodied a process of revolution "from below" that changed the course of Mexican history. Their unflinching defiance of the logic of early twentieth-century capitalism, foreign ownership of natural resources, and the joint exploitation of nature and labor, moreover, had truly global implications. Mexican oil workers had precipitated a crisis whose resolution set a dangerous precedent the oil companies understood fully: the expropriation of foreign property in general and the total loss of a key energy sector in particular. In the aftermath of the March 19 decree, preventing other Mexicos became mantra among transnational oil conglomerates – a notion that resonates down to our own day.[8] Investigating the ecology of oil in the Huasteca, therefore, also means understanding processes that marked the history of the twentieth century and beyond.

[8] Although the Bolsheviks had nationalized the Russian oil industry earlier than Mexico, in April 1920, their inability to manage it on their own led them to make arrangements with Standard Oil to exploit their fields in 1921. See Daniel Yergin, *The Prize: The Epic Quest for Oil, Money and Power* (New York: Simon and Schuster, 1992), pp. 237–240, 276–279.

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This book is divided into seven chapters distributed in three parts. Part I focuses on the natural and political history of the Huasteca in the nineteenth century. Chapter 1 shows that the oil industry did not operate in a historical vacuum. On the contrary, the chapter reviews the discourses surrounding the tropical forest and the century-old history of social conflict in the Huasteca to argue that those struggles arose from a competition between two distinct views of the rainforest and the two ecologies implied therein. That is, the small indigenous farmers and the aspiring hacendado elite who inhabited the region clashed throughout the nineteenth century over the uses and shape of the local environment. By and large, native peoples owned the land communally and focused on production for family consumption first, whereas the hacendados subscribed to notions of individual ownership and organized their production for the market first and foremost. The friction between a regime of communal and subsistence agriculture in a tropical rainforest and a capitalist agricultural project that entailed razing the forest explains much of the violence over land tenure that wracked the Huasteca in the nineteenth century.

Part II lays out the ecology of oil in three chapters. Chapter 2 analyzes the transformation of land tenure patterns. Commanding vast amounts of capital and armies of lawyers, the oil companies succeeded where the Mexican elites had failed. They transformed the tropical forest into a commodity. In less than two decades, the oilmen acquired the forest and supplanted communal and private ownership with corporate control. The chapter examines the reasons government officials, the hacendados, and indigenous family farmers alike had for negotiating with the oilmen, as well as the strategies the companies used to gain access to the land when they met peaceful and armed resistance.

Once the companies secured land titles, the process of transforming the rainforest into an oil "field" began. That is the subject of Chapter 3. It documents how the oil barons exerted control over nature in the process of extracting and processing oil, and thus changed the landscape. I describe the replacement of the forest with the infrastructure of oil production (camps, terminals, ports, and refineries) in addition to analyzing its environmental effects (fire, pollution, and habitat loss). The chapter highlights the ways in which nature emerged as an actor and belied the oilmen's hubris. The runaway wells, "gushers," and the spectacular spills and fires that became the trademark of Mexican oil extraction demonstrated the illusion of control.

Chapter 4, the last in Part II, zooms in from the landscape and the industry to humans in nature and humans and nature. The chapter examines the labor recruitment processes the oil companies used, the

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techniques they used to instill discipline in the labor force, the ways in which they institutionalized discrimination in Mexico and thus injected class and nationality (understood as race by Europeans and Americans) into the human experience of nature. I document how executives and professionals mastered and tamed nature through recreation, sport, and home landscaping, while foreign and Mexican workers encountered nature at its most dangerous, through work-related explosions, fires, and poisonous gases. I also examine the effects of intraclass distinctions between foreign and Mexican workers in terms of exposures to occupational and health hazards, including malaria and other endemic diseases.

The challenges to the network of relations and the historical processes the oil industry set in motion in the Huasteca is the subject of Part III. The overarching argument of this last section is that the Mexican Revolution offered unexpected and excellent opportunities to challenge the ecology of oil. The first to take advantage of the historical moment was the first generation of Mexican oil workers. They are the subjects of Chapter 5, which traces their cultural and political formation, arguing that their location in the ecology of oil resulted in a militant labor force with strong anarcho-syndicalist leanings. The coincidence of revolution at home and a world war abroad fueled by petroleum distillates meant that the first generation of Mexican oil workers quickly realized they had the power to disrupt production through strikes. They exercised their leverage with varying degrees of success until 1921, when the oil companies decimated their ranks just as the industry reached its peak of production in Mexico.

Chapter 6 traces the efforts of the revolutionary leadership to regulate the industry beginning in 1915. It shows that the revolutionaries were well aware of the environmental costs of oil production and advocated conservation as an alternative. They inscribed those concerns in the 1917 Constitution, in fact, in Article 27. I argue that what was at stake in the long and well-documented battle between the government and the companies over Article 27 was the question of whether the nation or the private sector should own nature. Article 27, referring to nature as "natural resources," established the principle that the nation did; yet the weakness of revolutionary institutions eventually doomed exercises of state authority to failure. Nevertheless, the change in discourse after 1921 allowed the Huastec to reemerge as local actors and reclaim ownership of the land, with mixed results. The chapter ends with the government's joint venture with Royal Dutch Shell in 1937. The failure of the proposed joint venture reveals that into the late 1930s, the Mexican revolutionary state-in-formation remained too weak to rein in the oil companies.

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