MAGUEYS AND MACHINES: NARRATIVES OF ENVIRONMENTAL CHANGE IN MID-TWENTIETH-CENTURY MEXICO

Victoria Saramago

Introduction

It was 1962, decades after the Mexican Revolution. Over those decades, a growing body of novels, films, and murals focused on how the revolutionary event had come to decisively mark the country's cultural production.[1] A young filmmaker launched his first experimental film, in which spiky, leathery maguey plants (*Agave americana* or American aloe), filmed in the state of Tlaxcala, wage an uncanny vegetal battle that results in devastated fields followed by the rebirth of a prosperous crop of magueys. The same year, a well-established novelist who had been governor of the state of Jalisco during the previous decade published a novel about the delicate, often painful process of agricultural modernization in a locality all but forgotten by Álvaro Obregón's government in the postrevolutionary moment of the early 1920s. The film is *Los magueyes*, by Rubén Gámez, and the novel is *Las tierras flacas* (*The Lean Lands*, 1968), by Agustín Yáñez.[2]

At first, the film and the novel may seem strikingly dissimilar. They are set in different areas with different agricultural histories, by authors at diametrically opposed points in their careers. They also address contrasting sets of aesthetic concerns. Gámez's experimental style blends nonhuman characters and a prominent use of soundtrack as a narrative device to focus on a crop that, albeit evoking iconic images of the Mexican countryside, was already declining in production. Yáñez, by contrast, draws on the realism so prominent in the tradition of the *novelas de la Revolución*—a tradition to which he himself had decisively contributed fifteen years earlier with *Al filo del agua* (1947; *The Edge of the Storm*, 1963)—in a novel permeated by local sayings and traditions conveyed largely through free indirect discourse.[3] With *Las tierras flacas*, Yáñez turned his attention to agricultural modernization in the Jaliscian smallholding economy of the *ranchos*.

Two factors tie these works together. The first are their intense reflections on the transformations that Mexican agriculture underwent in the 1940s and 1950s. Starting with the Mexican Agricultural Program (MAP) in 1943, the

© 2023 by Victoria Saramago

introduction of improved seeds, new machinery, and new fertilizers and pesticides was the beginning of the process later known as the Green Revolution, which changed the scale, ecological conditions, and labor relations of food production, and the access to land associated with it, on a global level. Although neither *Los magueyes* nor *Las tierras flacas* address the MAP or the Green Revolution in explicit terms, both reverberate with the effects, promises, and anxieties stemming from the reconfigurations of agricultural production. The modernization of agricultural methods had been a concern for decades prior to the MAP, but I contend that the program constituted a landmark in understanding the specific wave of agricultural changes that serves as a background for the two works analyzed here. In other words, the Green Revolution that began with the MAP was at the heart of the "ecological unconscious" of these works, to borrow Kerstin Oloff's term mentioned below.[4] The second factor tying these works together is their textual alignment with the *novelas de la Revolución mexicana*, either by portraying open, "armed" conflict among maguey plants, or the agricultural transformations in the post-Revolution years.[5] Both works, I argue, expand and rewrite themes associated with revolutionary narratives in order to explore perceptions of and reactions to mid-twentieth-century agricultural transformations, largely in enthusiastic terms but sometimes with sinister undertones.

By examining these factors, this article proposes that *Los magueyes* and *Las tierras flacas* use the familiar conventions and motifs of revolutionary narratives as a template, in Ursula K. Heise's terms, to dramatize contemporaneous environmental transformations taking place in different parts of the country. [6] They came out shortly after the codification of the *novelas de la Revolución* took a decisive turn with the 1960 publication of the anthology *La novela de la Revolución mexicana*, edited by Antonio Castro Leal.[7] A commercial success reprinted numerous times, this anthology not only helped keep the genre alive in readers' minds but also established a more precise canon. Even when openly trying to break with the traditions of these stories of the Revolution, as *Los magueyes* does, the film and the novel activate their narrative expectations about armed conflict, battlefields, social and agrarian inequality, and labor exploitation—as well as the sense of hope and utopia often present in revolutionary narratives and in their critical reception—in order to render mid-twentieth-century agricultural transformations culturally visible.[8]

This article contributes to the reassessment of narratives of the Mexican Revolution, both in literature and film, through the lenses of ecocritical studies. Although environmental issues have not traditionally been part of the critical corpus on the *novelas de la Revolución*, recent work has paid attention to the role of the nonhuman world in the genre. Mark D. Anderson reads *Al filo del agua* through Adorno and Horkheimer's take on the domination and revolt of nature.[9] Carolyn Fornoff analyzes human and nonhuman interactions in

Rafael F. Muñoz's *Se llevaron el cañón para Bachimba* (1941; *They Took the Cannon to Bachimba*).[10] In both cases, desertification and land erosion are environmental concerns that, as the authors show, are significantly more present in the genre than previously thought. Closer to the arguments that "Magueys and Machines" develops, Oloff reads *Pedro Páramo* as a gothic representation of the Green Revolution's rural exploitation.[11] If, as Oloff proposes, "the anxieties that the gothic mode registers thus revolve around reorganizations of nature-society relations," the forms of environmental awareness implied by *Pedro Páramo*'s gothic tropes make visible what Oloff classifies, paraphrasing Fredric Jameson, as an "ecological unconscious."[12] In dialogue with these critics, I contend that the genre of the revolutionary narrative has an environmental dimension that provides crucial insight both into the environmental implications and impact of the Revolution as narrated in many works belonging to the genre, and on the larger spectrum of environmental issues contemporaneous with the development and canonization of the *novela de la Revolución* in later decades.

In this article, thus, I aim to show that later revolutionary narratives encompass a spectrum of environmental transformations broader than that attached to the revolutionary period itself. In other words, to read the genre from the critical lens of the environmental humanities means not only to take into account the environmental factors causing, enabling, and obfuscating armed conflict, but also to understand these works as arenas where larger concerns about the environment, including agricultural production, were being debated. This is especially visible in some works of the 1950s and 1960s that not only maintain a keen relation to the revolutionary tradition, but that also embed, in their take on that tradition, considerations about contemporaneous environmental factors. In order to do so, I investigate the literary echo of the Green Revolution in narratives on the Mexican Revolution in order to show how, unlike novels such as Juan Rulfo's *Pedro Páramo* (1955), *Los magueyes* and *Las tierras flacas* offer a more welcoming take on the potentially positive economic effects of such agricultural changes.[13] Although *Las tierras flacas* is somewhat ambivalent about the politics of agricultural management, this novel and *Los magueyes* reinforce the ideals of rural prosperity that revolutionary narratives so commonly showcase.[14] In their focus on how such transformations have affected human and nonhuman forms of life, these works explore the logic of neocoloniality behind the Green Revolution, a phenomenon that both embrace for the most part, even as they leave space for more ambivalent positions. As such, both works are exemplary of a reinvention of revolutionary themes within the framework of mid-twentieth-century developmentalism. They do so through an approach to agricultural modernization that comments on the present of the 1960s by activating the tropes of a genre in the process of systematization and that, consequently, invites a reconsideration of what is at stake when the *novelas de la Revolución* are read ecocritically.

The Mexican Agricultural Program

The so-called Green Revolution had a profound impact on food production in Mexico and a number of other countries in the mid-twentieth century through the development and distribution of hybrid seeds, pesticides, fertilizers, and the introduction of advanced machinery in agriculture. In the case of Mexico, these changes were coupled with an increased use of irrigation methods, some of them developed by the government. The Mexican Agricultural Program began as a partnership among the Mexican and American governments and the Rockefeller Foundation following U.S. Vice President Henry Wallace's visit to Mexico. The MAP sent U.S. scientists to Mexico in order to improve agricultural productivity through research, which was carried out in conjunction with the Secretaría de Agricultura y Ganadería. In this initial stage, the program began in a limited fashion. It received some land and personnel to develop laboratories, including its main headquarters in Chapingo, which became the International Center for Wheat and Maize Improvement (CIMMYT) in 1966.[15]

From its early years, the program had two objectives. The first was to eradicate hunger and fight poverty by investing in crops traditionally tied to subsistence in Mexico, most notably corn. As Olsson shows, the scientists whom the MAP recruited were, for the most part, sensitive to the specificities of the country and not simply eager to import U.S. methods.[16] The second objective, however, was more in line with the development of Mexican agriculture for international export—which privileged wheat—in order to help the country industrialize, especially during the presidency of Miguel Alemán (1946-1952).[17] The two crops on which the MAP's research focused, corn and wheat, thus reflected this double objective.[18]

Another basic goal of the MAP was to develop insecticides. This effort relied on widespread use of DDT and was undertaken by a team of entomologists committed to killing a variety of common plagues and diseases. The use of pesticides, which Rachel Carson had already denounced in the United States in *Silent Spring* (1962), would be key to later criticism of the program.[19] Further chemical interventions mostly relied on nitrogen- and phosphorous-based fertilizers capable of improving crop quality. As Romina Robles Ruvalcaba shows, the use of fertilizers and initiatives to dig wells were the most common effects of such transformations in the broader region where *Las tierras flacas* is set.[20] Ultimately, advancing research was difficult, and small farmers and *ejidatarios* resisted improved seeds, fertilizers, and pesticides, as Yáñez shows in his novel, due to the fact that they had to depend on third parties for continuous access to such resources in order to maintain their productivity. All this led to the privileging of wheat as the MAP's centerpiece in the late 1940s and early 1950s. Under the leadership of Norman Borlaug, the program took hold

quickly in larger commercial farms, especially in northern Mexico.[21] This model gradually replaced small and communal farms causing an exodus from rural areas and the widespread concentration of land ownership into fewer hands.

Through exhibitions, informative pamphlets, and technical bulletins, the MAP fostered a narrative of agrarian modernization via a range of traditional motifs that took different forms depending on the audience.[22] For a Mexican audience, most specifically rural workers who might use the program's hybrid seeds, the idea of modernization was folded into a positive portrayal of campesinos through traditional imagery and an implicit defense of *ranchos* and *ejidos*. For a foreign audience, however, the MAP emphasized the contrast between a Mexican agriculture trapped in primitive methods and the revolutionary potential of technology. While critics such as agronomist Jesús Uribe Ruiz contended that the MAP "deformed and even worse de-Mexicanized agricultural research," the cultural production of the 1950s and 1960s represented agricultural modernity through myriad lenses, and usually in positive terms.[23]

Los Magueyes

It was during this period of change that Rubén Gámez's *Los magueyes* came out. The 9-minute film, produced with scarce resources by Gustavo Alatriste and the director himself, was shot over the course of two years, "on the days the great photographer [Gámez] could steal from his day job," before its release in 1962.[24] *Los magueyes* garnered an enthusiastic reception, with newspaper articles that also documented audiences' reactions in theaters offering favorable comments on it.[25] This first film by Gámez paved the way for his most well-known work, *La fórmula secreta* (1964, *The Secret Formula*), a 45-minute film with original text by Juan Rulfo. *La fórmula secreta* won the Primer Concurso de Cine Experimental del Sindicato de Trabajadores de la Producción Cinematográfica de la República Mexicana and became a landmark in the small experimental cinema scene of the period.[26] Gámez's production in the 1960s can be characterized as an attempt to reformulate the notion of Mexican identity to account for the impact of perceived icons of modernization—the "secret formula" refers to Coca-Cola's recipe—on traditional tropes widely mobilized in Mexican postrevolutionary cultural production.[27] In Gámez's words, "[m]i pretensión [con *La fórmula secreta*] es crear realmente un cine mexicano, el mexicano de Rulfo."[28] Such a quest for a "truly Mexican cinema" included a thorough reconfiguration of the aesthetics of the *época de oro* of Mexican cinema, which had been in decline for over a decade, under the rubric of experimentalism.[29]

Los magueyes tells a tale of war, conflict, and death among magueys, before their rebirth as a harmonic field. There are no humans, animals, or any other "characters" or notable elements beyond apparently infinite fields of ma-

gueys. Images of maguey leaves piercing and tearing each other, with dazzling, labyrinthine takes of numerous bushes in a frenzy of war to the soundtrack of Shostakovich's Eleventh Symphony, dominate the first part of the film.[30] After a few minutes of images of shredded magueys in a devastated battlefield, a living maguey reappears in all its magnificence. The film's final minutes zoom out on views of maguey fields composed of perfectly ordered, harmonious rows, closing with all-encompassing aerial shots of the magueys and the mountain tops beyond.

It is symptomatic that the plant chosen by Gámez was the maguey. Beyond the dramatic contours of its leaves, its sharp edges, and its imposing figure, the maguey was widely used as "part of a national visual grammar."[31] *Los magueyes* was likely shot in an area known as the Llanos de Apan, a tri-state region including parts of Tlaxcala, Hidalgo, and México that had been the epicenter of maguey production since the late nineteenth century. In the Llanos de Apan, monocultures of maguey *pulquero*—that is, magueys used to produce *pulque*, a fermented beverage widely popular in Mexico until mid-twentieth century—greatly expanded during Porfírio Díaz's dictatorship, especially from 1890 to 1910.[32] After suffering a decline in productivity during the revolutionary period, the Llanos de Apan's production rebounded in the 1930s and took place in post-Agrarian Reform communal lands known as *ejidos*. From the mid-twentieth century on, maguey production decreased steadily due to *pulque*'s dwindling popularity.[33]

The magueys' prevalence in Mexico's central plateau and their stunning appearance gave them a prominent place in iconographies and accounts of the Mexican countryside before and after the Revolution. At the turn of the twentieth century, as Hernández and Ramírez show, the maguey agroindustry was also an important component of how foreign travelers perceived, photographed, and narrated Mexico.[34] In post-revolutionary cinema, the images of maguey fields in Sergei Eisenstein's *¡Que viva México!*, shot in 1931, arguably influenced Gámez himself in the production of *Los magueyes*.[35] However, contrary to Gámez's film, in which humans are completely absent from the magueys' dramatic battles, Eisenstein's magueys are notably domesticated by human hands: there are scenes of people walking among the magueys and extracting *aguamiel* for the production of *pulque*. The basic mode in which magueys participate in the film is as the background for human actions. While Eisenstein's film does serve as the basis for cinematic tropes of maguey fields, it does not assign any form of protagonism to the plants themselves, much less the polysemic role that the magueys play in *Los magueyes*, in which the plant can be understood as an allegory of human actions as well as an object of humans' environmental impact.

Allegorical interpretations are nearly unavoidable: the maguey war alludes to the Mexican Revolution and its momentarily dire consequences, followed

by the rebirth of a modern nation yearning for a bright, peaceful future. In this case, *Los magueyes* would be but one experimental title in a large body of films portraying the Revolution. As an allegory of the revolution, it is in fact a conventional one: contrary to the ambivalence about the reasons for the Revolution and about its leaders and outcomes that is present across *novelas de la Revolución*, *Los magueyes* presents a highly uncritical, laudatory view of the Revolution as a tale of war, recovery, and prosperity.

However, this all-too-easy allegorical interpretation of the film eclipses the fact that, taken literally, it also narrates a tale of agricultural modernization. This is the reading I want to propose here: at a moment when Mexican agriculture was undergoing an unprecedented transformation as ground zero of the Green Revolution, *Los magueyes* captures a sense of the transformation and expansion of agricultural production. It does so by centering the emblematic figure of the maguey, which strongly conveys a Mexican flavor but is, ironically, a commodity that, albeit associated with modern techniques at the turn of the twentieth century during the Porfiriato, was not a priority for the MAP. Rather than merely a celebratory allegory of the Mexican Revolution, *Los magueyes* also serves as an allegory of the Green Revolution and, more broadly, of the Anthropocene itself. As Elizabeth DeLoughrey demonstrates, allegory has been a primary mode through which the Anthropocene, the possible new geological epoch in which humans have become geological agents, is culturally expressed and perceived. Rather than insisting on the planetary scale implied by the Anthropocene, DeLoughrey argues, a study of such cultural expressions should shift to smaller, more local contexts: "To parochialize the Anthropocene is to uncover its place-based allegories."[36] Such an allegorical effect is achieved through a striking contrast between the camera's movements in the first and the second parts of *Los magueyes*.

In the first part, Gámez's camera strives to erase the sense of orderly rows. Maguey plants are filmed from below or from between the rows, or they face the camera in a close shot. When the camera moves, it often does so from below or slightly above the plants, as if from the point of view of a train or an animal walking alongside them—in other words, still very close to the plants themselves. The numerous close-ups of the plants and their spears create the impression of individual personality and action. The scenes of "battle," in which spears pierce the leaves of other magueys or suddenly emerge from the side of the screen, as threatening swords, intensifies the effect of individual agency and lack of collective coordination. For the battle these magueys fight seems close to a visceral, spontaneous paroxysm of rage that echoes a larger history of violence.[37] In fact, Gámez goes to great lengths to erase an organized view of the actual rows of magueys he shoots: the few takes from above in the film's first part move at a transversal angle to the rows, so as to blur the sense of symmetry the rows would otherwise convey and present the plants as if they were

randomly spread around the field.

In contrast, the film's second part is mostly composed of wide-angle shots that highlight the orderliness of the maguey rows. After a few minutes that show the "battlefield" with shredded magueys scattered around and a faint fire in the background, the last two minutes reveal their rebirth by highlighting one surviving maguey, shot from above. The last minute completes the process of resurrection: this shot of one plant gives way to broader and broader shots of multiple magueys, distributed in orderly rows, while a sequence of shots zooms out to show larger and larger tracts of land with rows clearly separated one from each other. In the last scene, the magueys are themselves barely distinguishable. The long rows of the cultivated field occupy most of the screen and form a harmonious landscape with a range of hills and the sky in the background.[38]

During this transition, Shostakovich's symphony shifts from a martial chant to a triumphal ode. Composed in 1957 to commemorate Russia's October Revolution of 1905, the Eleventh Symphony "programmatically represented the 1905 Bloody Sunday Massacre [and] became inordinately famous, inspiring transcriptions for various media."[39] Thus, by giving portions of the symphony's second and fourth movements a central role in setting the film's tone and theme, Gámez deepens the historical breadth of *Los magueyes*, turning it into a meditation on revolutionary events beyond Mexico. Moreover, the use of a piece that was composed only five years before the film—and that could well be seen as a "comment on the Soviet repression of the Hungarian uprising" in 1956—brings the film's content into conversation with a broader realm of mid-century concerns contemporaneous with the Green Revolution.[40]

Through the rationalization of production in large-scale agriculture, the quintessential figure of the maguey is refashioned so as to form the basis for a modern agriculture, culminating in the final wide-angle shots of magueys that are no longer individually visible. As a result, the sense of individual action conveyed throughout the first part of the film is lost as the magueys are incorporated into the collective body of agricultural production. As mentioned above, magueys were not a crop favored by MAP scientists, yet, it is telling that, in his experimental revolutionary drama, Gámez opted for a tale of agricultural modernization in order to reflect on what postrevolutionary Mexico would look like. If, according to Adela Pineda Franco, non-Mexican cinema on the Revolution from the 1940s to the 1970s makes visible "the vast hermeneutical potential of the Mexican Revolution's visual archive to trigger political interest beyond Mexico," *Los magueyes* activates the same potential for exploring agricultural interests that extend not only beyond Mexico, but also beyond the human.[41] Through a traditional crop, the film captures how the Green Revolution transformed food production mindsets by narrating the plants' gradual loss of individuality as they are incorporated into large-scale monocultures.

The film potentially allegorizes both the Mexican Revolution and the changes underway due to the MAP's actions. More broadly, in a moment in which the Anthropocene as a concept has been steadily moving beyond the geological sciences to acquire a growing presence in cultural and academic production in the Humanities and Social Sciences, this retrospective gaze at how the Anthropocene has been narrated in previous decades allows for a reassessment of humans' environmental impact in works like *Los magueyes* that dramatize some of the implications of the Anthropocene before the term was created.

Las tierras flacas

Albeit set in the early 1920s, decades before the agricultural changes discussed here became prevalent, *Las tierras flacas* reflects issues that were pressing in the 1940s and 1950s in its depiction of the period between the Revolution and the Cristero war. One of Yáñez's main objectives as governor of Jalisco was to dismantle the power and political influence of local *caciques* who—as *Las tierras flacas* as well as his previous novel, *La tierra pródiga* (1960, *The Prodigal Land*), show—contributed to economic stagnation and, according to Yáñez, worked against Jaliscian grandeza (greatness) and prevented a true democracy from flourishing.[42] *Las tierras flacas* narrates the golden years and decay of one of those *caciques*, Epifanio Trujillo, as his hold over the land is replaced by the modernization efforts of his estranged son, Jacob Gallo, who very clearly represents state presence and the desire for a modern Mexico. Through Gallo's proposals, agricultural terms widely used in the context of the Green Revolution are transposed onto life in rural Jalisco in the 1920s.

Like Yáñez's most famous novel, *Al filo del agua*, *Las tierras flacas* narrates the upheaval of *pueblos* and rural areas in the Altos de Jalisco region in the early stages of agricultural modernization.[43] While *Al filo del agua* takes place on the eve of the revolution in 1910, *Las tierras flacas* leaps over the revolutionary decade to focus on the early 1920s, during Álvaro Obregón's presidency. In both novels, however, drought is a serious issue that threatens and reorganizes forms of life. The characters in the first novel face a "severe drought [that] lasted through August into September, an unheard-of thing, which made God's anger manifest."[44] The lean lands of the second novel underscore a "land [that] gets stonier and harder [every year], and it's no good letting it lie fallow for a season or two or even longer. And the sky as well, less rainfall every year, more uneven and more deceptive."[45] The imminent revolution in the first novel is, as Anderson proposes, also a "revolt of nature" against drought and desertification. "As the novel's title suggests," continues Anderson, "the storm lies just over the horizon and its fury will bring both destruction and renewal, ending the drought and delivering social and spiritual rejuvenation."[46] The event of the storm, allegorically standing for the Revolution but also ecologically grounded

in the context of a region experiencing intermittent droughts, is independent of human action, but will nevertheless affect humans and nonhumans alike—just as the Mexican Revolution did. In *Las tierras flacas*, the redemptive power of natural forces is not enough: there is no single storm capable of ending Tierra Santa's suffering. Instead, irrigation, machinery, and improved seeds must do that.[47] From the early years of the Green Revolution, when *Al filo del agua* came out, to its triumph in the so-called Mexican Miracle, which characterized the atmosphere when *Las tierras flacas* was published, the ecological problem that persists across both novels bifurcates into two different views of nonhuman narrative agency. In the later novel, a rhetoric similar to that of the MAP prevails: to make Mexico prosperous, its land had to be controlled by human forces under the aegis of modernization.

The fifteen years that separate the publication of the two novels are marked by Yáñez's decision to pause his literary career in favor of his political one: he served as governor of Jalisco from 1953 to 1959—a key period for the expansion of the methods fostered by the Green Revolution.[48] Deeply committed to dismantling the power of local *caciques*, of whom the character of Epifanio Trujillo is a telling example, Yáñez, according to Robles Ruvalcaba, "aimed [at an ambitious transformation of the countryside] by reviving liberal ideology and the idea of democracy with the smallholding as its legitimizing, concretizing, principle."[49] The smallholding to which Robles refers is the *rancho*, which became not only a much more widespread form of land tenure from the 1940s on, but one of the types of smallholding that, in Jalisco, most deeply adopted the Green Revolution's methods.[50] *Ranchos* are also the basic land units that make up the setting of *Las tierras flacas*; bringing irrigation to them, as Jalisco did in the 1950s, was a direct way of intervening in what Yáñez himself described, in an interview with Emmanuel Carballo, as "the big drama those people face[, which] is that they are not safe from the sky, and the soil is eroded."[51] The predicament of agricultural production in regions such as Jalisco's Caxcana, where Tierra Santa is presumably located, set the problems that Yáñez the governor attempted to solve and that Yáñez the writer would later expose. This is also what happens in *La tierra pródiga*, published shortly after his tenure as governor and dealing with the tyrannies of *caciquismo* on Jalisco's coast.[52] While the earlier novel is set in the 1950s and responds to concrete issues Yáñez faced as governor, the later one, set in the 1920s, refracts the 1950s.[53] This multitemporal dimension is what makes *Las tierras flacas* such an intriguing exercise in how to embed the Green Revolution's effects in a larger history of the symbolic construction of post-revolutionary Mexico.[54]

Beyond the family conflicts, endless traditional sayings, and episodes of rural life that occupy a significant portion of the plot, *Las tierras flacas* narrates the transition from forms of production based on rudimentary methods during the time of the *cacique* to the arrival of new agricultural technologies coupled

with a more thorough integration into regional and national political spheres. This transition, materialized in the novel in the dichotomy between "the Land or the Machine" ("*la tierra o la máquina*") that names the first part of the book, permeates the plot's most basic opposition and is repeated by Yáñez in equally schematic terms, for example, in his interview with Carballo.[55] Jacobo Gallo's return to Tierra Santa after years amassing his fortune elsewhere, including "trips to the North," suggest that business connections in the United States mark the beginning of a revolution in the region's way of life and potential for production.[56] "I have enough means to save the plain from want," he announces.[57] Eager to invest in the region and replace his estranged father with a form of leadership more similar to that of the old *cacique* than he would like to acknowledge, Gallo and his sons spend most of the plot convincing the *rancheros* to adopt improvements such as:

> reforestation, soil conservation, introduction of new crops, perforation of wells, construction of dams, opening up of roads, agriculture in place of cattle-raising, a variety of money crops, use of fertilizers, improved seeds and machinery; industrialization, exploitation of the forests in the Cardos mountains, investigation of the mining possibilities in the region; political power and influence; money and financial credit.[58]

Some of these measures receive special praise as they are implemented. Irrigation and water management, for example, are key issues: "New words and fresh rumors added to the astonishment: 'artesian well,' 'weather vane.' One of the new words coming into circulation, 'cistern,' sounded like a caress on eager ears and tongues."[59] The "improved seeds" mentioned above are also pivotal: "Another surprise, a big one, was the marvelous yield of the cornfields treated with fertilizer and sown with good seed compared with the chronic sickliness of the others; the former were so sturdy that they withstood the June hailstorms, which also seemed miraculous."[60]

Also perceived as miraculous was the arrival of electricity, promised throughout the novel: "Electricity! The word is exciting. Jacob also says he will bring it before the rainy season, and there will be light bulbs."[61] The novel closes, indeed, with the arrival of electricity in Tierra Santa, in a carefully arranged spectacle briefly savored by the local population before, ironically, a storm begins: "Jacob and those with him climbed hastily onto the platform, and the current was turned on at once. As the strings of bulbs lit up, the exclamation of surprise was unanimous . . . . Another flash of lightning shone, followed by a furious clap of thunder. One by one, big and heavy, the first drops of rain began to fall."[62] The translation replaces "tostones" by "heavy," thus omitting the reference to this type of coin. While the storm seems to interfere with the

spectacle, it also complements it: the raindrops, compared to coins and thus associated with money, are essential for fueling agriculture. Their appearance, synchronized with the arrival of electrical light, suggests a convergence of factors through which the *rancheros*' frightening dependence on the capriciousness of natural events is finally overcome and nature's power harnessed for their needs. The very lightning, an electric discharge from the sky at the moment electricity is presented to the people, reinforces in almost caricatural terms the association between the mastery of natural forces and progress.

Some of the improvements that Jacob Gallo brings did take place in the early 1920s and are noted by Yáñez himself in other works, such as his account of September 15, 1920 and the arrival of electricity in Yahualica, the Jaliscian town where his family owned a plot of land.[63] Taken together, however, the modernizing measures that Gallo implements are akin to the technologies and policies not of the 1920s, but instead those from the 1930s on, and especially the 1940s and 1950s. There seems to be a certain disjuncture between the time when the novel is set and many of the issues—especially the agricultural and environmental ones—it addresses.[64] More than sheer anachronism, this structure ties together the motifs of narratives about the Revolution and its aftermath, on the one hand, and the intense transformations taking place in the country when Yáñez wrote this novel, on the other.[65] This multitemporal structure allows the novel to reflect on the Green Revolution at the same time as it revisits and reactivates themes associated with the *novelas de la Revolución*.

Airplanes, electricity, agricultural machinery, and other technologies are, however, not easily accepted by the inhabitants of Tierra Santa. In fact, a number of passages narrate Gallo's and his family's efforts to assuage the fears of local people who often see airplanes as flying devils, "the terrifying appearance of the devil, Satan, in the guise of a flying monster, causing death wherever he passed above the farms of the Tierra Santa."[66] Likewise, they consider other technologies as potentially devilish things or traps that Gallo has set in an effort to become another *cacique*: a delayed storm is a "[sign] that it would be a bad year . . . . This seemed to confirm the belief that electricity and the other products of witchcraft brought by the Gallos would be the ruin of the Tierra Santa. Jacobo was indeed a Mason, a Protestant, an enemy of Christianity."[67] The malefic connotations of such technologies contrast the divine power of one machine: the sewing machine of the deceased Teófila, the daughter of protagonists Rómulo and Merced who is increasingly perceived as a local saint. The novel's ongoing conflict is based on her parents' struggle to prevent her machine from being taken by the *cacique* Epifanio. Teófila's sainthood is progressively associated with the machine, which becomes "the relic."[68] The machine's instrumentality, however, is often effaced in favor of an almost mystical representation of it: *la máquina*. In fact, over the course of many chapters in which "the machine" is a major source of conflict, the reader is not even informed of

what kind of machine it is or what it does.

In addition to this erasure of the sewing machine's instrumentality, airplanes fly over Tierra Santa but never really carry any of its inhabitants and many of Jacobo's technologies initially seem to have no purpose. All these factors indicate that the inhabitants of Tierra Santa view technology, not as a means to an end, but as a cause for astonishment that can only be explained by miracles and devils. The "superstitious character of the region" does indeed support the dichotomy between primitive and modern that Yáñez seeks to explore.[69] But a mere characterization of the *pueblo*'s reaction as idle superstition is not enough to explain the implications of the technological changes in Tierra Santa.[70]

In 1954, less than a decade before the publication of *Las tierras flacas*, another powerful reflection on how technology affects human relationships with natural resources had been published. In analyzing, for example, the impact of hydroelectricity or mechanized agriculture in Germany, Martin Heidegger's "The Question Concerning Technology" insists that the essence of modern technology is not something technological, but rather a way of revealing "the real, in the mode of ordering, as standing-reserve."[71] Standing-reserve is the condition in which natural resources and machines present themselves in a state of instrumental potentiality. Yáñez's approach to the troubling presence of modern technology in the countryside dramatizes Tierra Santa's characters' resistance to enframing their reality as standing-reserve.[72] The sewing machine, the airplane, and other technologies ought to be seen as standing-reserve, but the de-objectified view many characters hold of the sewing machine and the airplane pushes back against their potential instrumentality. By opening the story with this de-instrumentalized, increasingly sacred machine, Yáñez develops a mode of narrative perception that not only encompasses the sewing machine per se, but also sets a much more conflicted tone for the story of how Tierra Santa's inhabitants reconfigure natural resources through modern technology than a mere fable of modernization would involve.

The multitemporal dimension of *Las tierras flacas* dramatizes the clash between the characters' skepticism about technology's abilities to increase crop yields and forecast the weather, on the one hand, and the belief in technological improvements, on the other. By placing the novel in an earlier period and painting the characters' reactions to airplanes, machines, and electricity in ambivalent tones, Yáñez aligns the larger tradition of narratives about revolutionary topics with an optimistic view of the impact of new technologies in rural areas in the 1950s and 1960s. At the same time, the novel's highly dialogical structure allows the characters' feelings and fears to be acknowledged and appreciated. As such, machinery, improved seeds, reforestation, irrigation, and other changes are presented as the right, indeed almost inevitable, path for curing Tierra Santa's problems as they are gradually incorporated into the

cultural imaginary of postrevolutionary Mexico.

Conclusion

In the late 1950s and early 1960s, the *novelas de la Revolución* were organized into a recognizable corpus, as previously noted. In the cinematic arena, the *época de oro* of Mexican cinema had exhaustively explored revolutionary topics over the preceding decades. In this sense, *Los magueyes* and *Las tierras flacas* are not merely latecomers, but instead works that dialogue with a familiar and highly accessible set of themes and tropes. While they do reverberate with the ambivalence of revolutionary narratives, they also mobilize another set of expectations in more sympathetic ways. These were expectations of expanding agricultural production using the technologies of the Green Revolution.

At first, neither the film nor the novel may appear as commentaries on the Green Revolution: Gámez chose as protagonist a plant notably associated with earlier agricultural forms in *Los magueyes*, and *Las tierras flacas* is set in the 1920s. Even if these works comment on the Green Revolution, they would not have been able to predict the negative effects—such as land concentration, further erosion, contamination, and dependence on agrochemicals—that these transformations would come to entail. Nevertheless, both explore the novelty of and enthusiasm for the large-scale monoculture and agricultural technologies being implemented in the period. While Gámez's camera performs the shift from more spontaneous crops to highly rationalized, controlled fields, Yáñez documents the reaction of smallholding farmers to technologies strikingly similar to those that the Mexican Agricultural Program developed, thus showcasing the breakdown of the opposition between *la tierra y la máquina*. By different means, both works express a certain degree of optimism regarding the narratives of progress and development surrounding these changes. At the same time, they formally allow some ambiguity to remain latent through the increasing crop planting in larger fields in the case of Gámez and through the doubts and fears that Tierra Santa's inhabitants voice in the polyphonic narrative of *Las tierras flacas*. As such, these works can be read as bridges to the developmentalist mindset of the second half of the twentieth century while, at the same time, they refract revolutionary themes and concerns. By integrating such dilemmas into narratives that ultimately celebrate agricultural and economic growth, the two works broaden the temporal and ecological scope of the tradition of revolutionary narratives and invite a reconsideration of the genre that not only takes into consideration its environmental component, but a larger environmental history that reverberates across works.[73]

NOTES

[1] By "event," I mean the historical event in Hayden White's terms: an eruption that changes an ongoing system but can only be grasped at a later time, when this "later event can be plausibly represented in a narrative in which it is the fulfillment (or derealization) of the meaning having lain latent and now made manifest retrospectively in the earlier one" (30). See Hayden White, "The Historical Event," *differences: A Journal of Feminist Cultural Studies* 19, no. 2 (2008): 9–34.

[2] Gámez, Rubén, dir. *Los magueyes*. 1962; Mexico City: Rubén Gámez and Gustavo Alatriste, 1962. https://www.youtube.com/watch?v=TI1RfOH8ILg. Agustín Yáñez, *The Lean Lands*, trans. Ethel Brinton (Austin, Texas: University of Texas Press, 1968). The Spanish version used here is Agustín Yáñez, *Las tierras flacas*, in *Obras*, vol. 3 (Mexico City: El Colegio Nacional, 2000), 253-567.

[3] Agustín Yáñez, *The Edge of the Storm*, trans. Ethel Brinton (Austin, Texas: University of Texas Press, 1963). See the Spanish version: Agustín Yáñez, *Al filo del agua*, edición crítica, coord. Arturo Azuela (Madrid: CSIC, 1992).

[4] According to Martín Sánchez Rodríguez in his study of agriculture in the fertile region of El Bajío, for example, the Porfiriato saw "a new chapter in rural investment" (69), even though technologies such as the cajas de agua date back to the colonial period. See Martín Sánchez Rodríguez, "Mexico's Breadbasket: Agriculture and Environment in the Bajío," in *A Land between Waters: Environmental Histories of Modern Mexico*, ed. Christopher Boyer (Tucson: University of Arizona Press, 2012), 50-72.

[5] By *novelas de la Revolución*, I refer to a corpus comprised of works penned by a diverse range of authors with differing levels of education and literary recognition that deal with the Revolution, including its origins and aftermath, during the deepening of conflict in the 1910s and throughout the decades that followed. This genre represents, in Max Parra's words, "a novel process of social introspection, which begins to provide patterns for cultural recognition, marks of identity for a country that was in the process of reconstituting its social fabric." See Max Parra, "Geografía y procesos culturales en la narrativa de la revolución mexicana (Azuela y Campobello)," in *Imagining the Mexican Revolution: Versions and Visions in Literature and Visual Culture*, ed. Tilmann Altenberg (Newcastle upon Tyne: Cambridge Scholars Publishing, 2013), 3–17. In the 1930s and 1940s, the novelas de la Revolución were increasingly recognized as part of a nationalist cultural imaginary also made up of the visual arts, especially *muralismo* and the period known as the Golden Age of Mexican cinema. According to Danaé Torres de la Rosa, this process was interwoven with both the nationalist atmosphere in which the Partido Revolucionario Nacional (National Revolutionary Party), later known as Partido Revolucionario Institucional (Institutional Revolutionary Party), was established, and an evolving publishing market in which the genre flourished but which also determined its paths, mostly via the mythification of revolutionary figures and events even in novels critical of or skeptical about them. See Danaé Torres de la Rosa, *Avatares editoriales de un "género:" Tres décadas de la novela de la Revolución*

mexicana (Mexico City: Bonilla Artigas Editores and Instituto Tecnológico Autónomo de México, 2015).

[6] In this sense, these works provide a more localized example of how, as Heise argues, certain literary genres have provided narrative templates for accounts of environmental change and extinction. See Ursula K. Heise, *Imagining Extinction: The Cultural Meanings of Endangered Species*, (Chicago: University of Chicago Press, 2016).

[7] See Antonio Castro Leal, ed. *La novela de la Revolución mexicana* (Mexico City: Aguilar, 1991).

[8] For a detailed account of how the definition of the *novela de la Revolución* as a genre has evolved, in its thematic, formal, and chronological dimensions, see Torres de la Rosa, *Avatares editoriales*, loc. 422-744.

[9] See Mark D. Anderson, "Was the Mexican Revolution a Revolt of Nature? Agustín Yáñez's Ecological Perspective," *Revista de Estudios Hispánicos* 40, no. 3 (2006): 447–67.

[10] See Carolyn Fornoff, "The Nature of Revolution in Rafael F. Muñoz's Se llevaron el cañón para Bachimba," in *Mexican Literature in Theory, ed. Ignacio M. Sánchez Prado* (New York: Bloomsbury, 2018), 93–110.

[11] See Kerstin Oloff, "The 'Monstrous Head' and the 'Mouth of Hell:' The Gothic Ecologies of the 'Mexican Miracle,'" in *Ecological Crisis and Cultural Representation in Latin America: Ecocritical Perspectives on Art, Film, and Literature*, ed. Mark D. Anderson and Zélia Bora (Lanham, Maryland: Lexington Books, 2016), 79–98.

[12] Oloff, "Gothic Ecologies," 81.

[13] As such, "Magueys and Machines" builds on the third chapter of my book, *Fictional Environments: Mimesis, Deforestation, and Development in Latin America* (Evanston, Illinois: Northwestern University Press, 2021), in which I show how *Pedro Páramo* activates images of a countryside devastated by war and the deleterious impact of the local cacique Pedro Páramo in order to project Rulfo's own concerns about ecological change. See Juan Rulfo, *Pedro Páramo*, 18th ed., ed. José Carlos González Boixo (Madrid: Cátedra, 2004).

[14] In spite of the nationalistic aura surrounding the genre, it is worth noting what critics such as Carlos Monsiváis have identified as these novels' "arduous pessimism relating to the positive outcomes of national transformation." See Carlos Monsiváis, "Notas sobre la cultura mexicana en el siglo XX," in *Historia general de México*, vol. II, ed. Daniel Cosío Villegas (Mexico City: El Colegio de México, 1994), 1445.

[15] See John H Perkins, *Geopolitics and the Green Revolution: Wheat, Genes, and the Cold War* (New York: Oxford University Press, 1997), 108.

[16] See especially Olsson, chapter 5 of *Agrarian Crossings: Reformers and the Remaking of the US and Mexican Countryside* (Princeton, New Jersey: Princeton University Press, 2017). In spite of their willingness to adapt, as Deborah Fitzgerald shows, "as a rule, the RF programme [the MAP] succeeded insofar as Mexican farmers and agricultural professionals shared with their American counterparts the same assumptions about and expectations for agricultural progress, and failed when such a parallel group did not exist." "Exporting American Agriculture: The Rockefeller Foundation in Mexico, 1943–53," *Social Studies of Science* 16, no. 3 (1986): 459.

[17] In fact, as Olsson shows (*Agrarian Crossings*, 150), then-current racial theories, to which agriculture secretary Marte Gómez was sympathetic, suggested that a corn-based diet was responsible for poor health and lower levels of development among populations of indigenous origin, whereas wheat would provide the strength and health associated with white Americans. See also Laura González Martínez, *Respuesta campesina a la revolución verde en el Bajío* (Mexico City: Universidad Iberoamericana, 1992), 302.

[18] Perkins, *Geopolitics*, 112. As Perkins states, "[Rockefeller] Foundation literature from the time paints a picture of helping subsistence farmers produce more food, which may have happened in some cases, but the Mexican government probably saw the foundation as helping transform Mexican agriculture away from subsistence farming toward the type of commercial farming that was compatible with a modern industrial state" (112).

[19] Such criticism converges on what Angus Wright has defined as "the modern agricultural dilemma" constitutive of the Green Revolution: "Can the pursuit of economic prosperity be made consistent with ecological health and some reasonable degree of human equality?" (245). See Angus Wright, *The Death of Ramón González: The Modern Agricultural Dilemma* (Austin, Texas: University of Texas Press, 2005).

[20] See Romina Robles Ruvalcaba, "The Emergence of the Rancho and the Socioeconomic Transformation of the Caxcana, Jalisco, 1939-1959." Ph.D. Diss, University of Chicago, 2017, 172-73.

[21] For a detailed account of how farmers negotiated the technologies of the Green Revolution alongside traditional methods, as well as of the rural exodus due to demographic pressure in the region of El Bajío, one of the historically crucial agricultural areas of Mexico, see González Martínez, *Respuesta campesina*. See David Clawson and Don Hoy for an example of the reasons why Nealticán's campesinos rejected MAP technologies, which included the relatively small size of corn kernels, a strict planting schedule that entailed higher risks in the event of crop failure, and dependence on outsiders for chemical fertilizers: "Nealticán, Mexico: A Peasant Community That Rejected the 'Green Revolution,'" *American Journal of Economics and Sociology* 38, no. 4 (1979): 371–87. For the predominance of wheat in determining the MAP's success, see Olsson, *Agrarian Crossings*.

[22] For a more thorough discussion of some of these materials and the narratives that the MAP fostered through them, see chapter 3 of my book, *Fictional Environments*. One example is a series of woodcuts by the Taller de Gráfica Popular, a leading collective in Mexico's printmaking industry at the time, in which scenes of rural workers contemplating cornfields, holding large corncobs in their hands, or examining the harvest in front of a shack with a wife and child sitting by the door, were published alongside slogans such as "Si empleas la semilla híbrida que te proporciona la Comisión del Maíz, tendrás mejores resultados" ("If you use the hybrid seed that the Corn Commission provides you, you will have better results"); "Con igual área / con igual trabajo / con mejor semilla: / mayor producción"; "Las semillas mejoradas de maíz afirmarán tu futuro" ("With the same area / with the same work / with better seed: / greater production") (Prignitz 320). See Helga Prignitz, *El taller de gráfica popular en México 1937–1977*, trans. Elizabeth Siefer (Mexico City: Instituto Nacional de Bellas Artes, 1992).

[23] Joseph Cotter, *Troubled Harvest: Agronomy and Revolution in Mexico, 1880– 2002* (Westport, Connecticut: Praeger, 2003), 225.

[24] "En los días que el gran fotógrafo [Gámez] pudo robar a su trabajo habitual." Unless otherwise noted, all translations are mine. See Antonio Rodríguez, "Magueyes: Expresión artística de extraordinario vigor," in *Rubén Gámez: La fórmula secreta* (Mexico City: Alias, 2014), 50.

[25] Such articles have been reprinted in *La fórmula secreta* 50-52. For a commentary on the "aplausos" and "vivas" manifested by the audience, see the anonymous article on p. 51.

[26] For a brief account of how little-known and little-understood the very concept of experimental cinema was around the time La fórmula secreta was produced, see Gámez's interview with Conchita Perales. "Entrevista con Rubén Gámez: Tequila," in *Rubén Gámez: La fórmula secreta*, 385.

[27] See Horacio Legrás, *Culture and Revolution: Violence, Memory, and the Making of Modern Mexico* (Austin, Texas: University of Texas Press, 2017). This study demonstrates how cultural production was "a central question in postrevolutionary Mexico" (10). Especially pertinent to the present discussion is Legrás's argument that "while technological fantasies ran rampant in the most removed areas of the country . . . Mexico City-based intellectuals ended up producing a national imaginary that was formulated on a counter-technological version of the countryside" (125).

[28] "My intention [with La fórmula secreta] is to create a truly Mexican cinema—Juan Rulfo's Mexico." See Emilio García Riera, "Rubén Gámez: Mi pretensión es crear un cine realmente mexicano," in *Rubén Gámez: La fórmula secreta*, 182-84.

[29] See Eduardo de la Vega Alfaro for an account of the decline of Golden Age Mex-

ican cinema and what he calls its "structural crisis of quality" (176), which, among other factors, privileged lower-budget urban dramas and comedies while allowing for the production of some highly regarded films on the Revolution. "The Decline of the Golden Age and the Making of the Crisis," in *Mexico's Cinema: A Century of Film and Filmmakers*, ed. Joanne Hershfield and David R. Maciel (Lanham, Maryland: Scholarly Resources, 1999), 165-191. See Andrew Paxman for a reassessment of the causes of the decline from a business perspective, especially as it relates to the Jenkins group's often mentioned monopoly of cinema theaters. "Who Killed the Mexican Film Industry? The Decline of the Golden Age, 1946-1960," *Estudios Interdisciplinarios de América Latina y el Caribe* 29, no. 1 (2018): 9-33.

[30] The musical component apparently may have become more dominant in the film than Gámez first anticipated. In a late interview with Alejandro Pelayo Rangel in 1984, Pelayo notes that "I remember *Los magueyes* as a rather musical piece," to which Gámez answers: "Unfortunately yes." See Alejandro Pelayo Rangel, "Conversaciones con Rubén Gámez," in *Rubén Gámez: La fórmula secreta*, 364.

[31] According to Ramírez, filmmakers Emilio Fernández and Gabriel Figueroa learned this lesson from engraver José Guadalupe Posada and filmmaker Sergei Eisentein, who prominently featured "overlooked, taken-for-granted, and seemingly unimportant quotidian details of Mexican life" (106) such as the maguey plant. See Charles Ramírez Berg, *The Classical Mexican Cinema: The Poetics of the Exceptional Golden Age Films* (Austin, Texas: University of Texas Press, 2015), 106.

[32] See Juan Felipe Leal and Mario Huacuja Rountree for an account of the expansion of the maguey fields for the production of pulque during the second half of the nineteenth century and especially during the Porfiriato. See Juan Felipe Leal and Mario Huacuja Rountree, *Economía y sistema de haciendas en México. La hacienda pulquera en el cambio. Siglos XVIII, XIX y XX* (Mexico City: Era, 1984). As Leal and Huacuja demonstrate, the expansion of the rail system boosted production in the Llanos de Apan and beyond (see chapter 2). See also Castro Leal, ed. *La novela de la Revolución mexicana*.

[33] For a concise account of this decline, see Rodolfo Ramírez Rodríguez, "La transformación de la región pulquera en los Llanos de Apan (1910-1950)," in *Campesinos y procesos rurales. Diversidad, disputas y alternativas*, ed. Elsa Guzmán Gómez, Gisela Espinosa Damián, and Roberto Diego Quintana, vol. VII, *Territorios y regiones*, ed. Hernán Salas Quintanal and Alejandra Toscana Aparicio (Mexico City: Asociación Mexicana de Estudios Rurales/AMER, 2015), 88-99. Moreover, as Cynthia Hewitt de Alcántara notes, in 1960 Puebla and Tlaxcala ranked lowest in terms of "productivity of land and labour." See *Modernizing Mexican Agriculture: Socioeconomic Implications of Technological Change*, 1940-1970 (Geneva: UNRISD, 1976), 120.

[34] See José de Jesús Hernández López and Rodolfo Ramírez Rodríguez, "Una imagen del cultivo del maguey en los paisajes del centro de México, 1890-1910," *Ulúa* 31 (2018): 89-120.

[35] Jesse Lerner considers Eisenstein's film "a key reference for Los magueyes" (320) in his reading of Gámez's film as an allegory of the Revolution. Gámez confirms he had watched it in his interview with Pelayo (368). See Jesse Lerner, "Rubén Gámez: Cine neobarroco en tiempos de cambio," in *Rubén Gámez: La fórmula secreta*, 318-329. Although this film would not appear in its current form until 1979, some of its footage was included in 1930s films, such as Thunder over Mexico and Eisenstein in Mexico.

[36] See Elizabeth DeLoughrey, *Allegories of the Anthropocene* (Durham: Duke University Press, 2019), 34.

[37] See Claudio Lomnitz, *Death and the Idea of Mexico* (Brooklyn, New York: Zone Books, 2005), 402. In a certain way, these scenes seem to evoke what Claudio Lomnitz has called the "negative reciprocity" of the imagery of death and violence in wake of the Mexican Revolution, according to which "the revolution was not a simple dialectical resolution of the violence of conquest; it was instead a diffusion of this form of exploitation."

[38] If, in W. J. T. Mitchell's definition, "landscape is itself a physical and multisensory medium (…) in which cultural meanings and values are encoded" (14), the resolution of the conflict through the emergence of a well-defined landscape redundantly affirms the power of the postrevolutionary state by harmoniously reconfiguring the revolutionary visual archive with nonhuman elements. See W.J.T. Mitchell, "Imperial Landscape," in *Landscape and Power*, 2nd ed., ed. W.J.T. Mitchell, (Chicago: University of Chicago Press, 2002), 5-34.

[39] Stanley Sadie, ed. *The New Grove Dictionary of Music and Musicians* (London: Macmillan Publishers Limited, 2001), 298.

[40] Sadie, *New Grove Dictionary*, 298.

[41] See Adela Pineda Franco, *The Mexican Revolution on the World Stage: Intellectuals and Film in the Twentieth Century*, (Albany, New York: SUNY Press, 2019), 166. As Pineda shows, proto-environmentalist concerns were, in fact, occasionally present in works by the artists she analyzes. This is the case with John Steinbeck's *The Log of the Sea of Cortez* (1951). See additionally Pineda, *World Stage*, 10-19.

[42] See Robles Ruvalcaba, "Rancho and Socioeconomic Transformation," 108, 115. Yáñez himself defines the "lema del jalisciense" ("motto of the Jaliscian") as "mi dimensión es la grandeza" ("My dimension is greatness" "Discurso a la generación de abogados" 361). This motto is also assigned to his character Gabriel in *La creación* (1959). See "Discurso a la generación de abogados 1958-1963 de la Universidad de Guadalajara," in *Imágenes y evocaciones* (Zapopán, Jalisco: Alfaguara, El Colegio de Jalisco, 2003), 351-361.

[43] See Emmanuel Carballo, *Protagonistas de la literatura Mexicana* (Mexico City: Ed-

itorial Porrúa, 1994), 344-45. Carballo identifies this parallel when he notes that "Las tierras flacas is similar to the story told by Yáñez himself in Al filo del agua, without repeating it. Here life in the countryside replaces life in the town; magic takes the place of fanaticism; the characters' frustration is the same in both novels."

[44] Yáñez, *The Edge of the Storm*, 273; Yáñez, *Al filo del agua*, 199-200. "Aguda sequía que desde agosto se siguió a septiembre, cosa nunca vista, que hizo palpable la cólera de Dios."

[45] Yáñez, *Lean Lands*, 87; Yáñez, *Tierras flacas*, 335. "[T]ierra [que], de año en año, se hace más pelona, más dura, sin que valga dejarla descansar una, dos, más temporadas. Y el cielo, por lo consiguiente: más y más escasas las lluvias, más disparejas y traicioneras, de año en año . . . ."

[46] See Anderson, "Revolt of Nature," 460.

[47] See chapter 3 of *Fictional Environments* for an account of how this dependence on natural events and possible solutions to it were ambivalently expressed in another novel of the period, *Pedro Páramo*, in connection with the MAP's larger rhetoric.

[48] See Arturo Azuela for an overview of Yáñez's political career as it intertwined with his literary and educational activities. Arturo Azuela, *Agustín Yáñez: En las letras y en la historia (1904-1980)* (Mexico City: Academia Mexicana de la Lengua, Seminario de Cultura Mexicana; Guadalajara, Jalisco: Gobierno de Jalisco, Secretaría de Cultura, 2004).

[49] Robles Ruvalcaba, *The Emergence of the Rancho*, 90.

[50] See Robles Ruvalcaba, "Rancho and Socioeconomic Transformation," Chapter 5.

[51] "El gran drama de esta gente [, que] consiste en que no tiene seguridad alguna del cielo, y el suelo está erosionado." See Carballo, *Protagonistas*, 335.

[52] See Alfonso de Alba Martín (41-43) for a discussion of how *La tierra pródiga* addresses Yáñez's promise to integrate the coast of Jalisco into the state's economy. "Agustín Yáñez: el novelista y el gobernante," in *Acto preparatorio: Agustín Yáñez a cien años*, ed. Agustín Vaca (Zapopán, Jalisco: El Colegio de Jalisco, 2003), 39-44.

[53] I use the term refraction in the sense that Mikhail Bakhtin does when describing the ways in which heteroglossia is organized in novels. It is the "dialogic tension" (314) between the many discursive practices activated in a story and "a second story, the author's story" (314). While such a tension between the author's voice and those of the many characters who populate *Las tierras flacas* may be easily identified, I expand the idea of refraction along a temporal axis that makes the multi-decade refraction mentioned above possible. See Mikhail Bakhtin, "Discourse in the Novel," in *The Dialogic Imagination: Four Essays*, ed. Michael Holquist, trans. Caryl Emerson and Michael

Holquist (Austin, Texas: University of Texas Press, 2008), 259-422.

[54] As such, this is an interesting example, in Sarah Bowskill's words about Soledad García's *La promesa* (1966), of a novel that "can be seen as providing a link between the largely rural socio-political novels of the 1930s and later novels about the betrayed revolution" (35). The main difference is that, in the work of an author as strongly committed to the PRI's agenda as Yáñez, that sense of betrayed revolution will be undone by Gallo's arrival. See Sarah Bowskill, "Towards a Broader Definition of the Novel of the Mexican Revolution," in *Imagining the Mexican Revolution: Versions and Visions in Literature and Visual Culture*, 19-40.

[55] Carballo, *Protagonistas*, 336.

[56] Yáñez, *Lean Lands*, 195; Yáñez, *Tierras flacas*, 438. "viajes al Norte."

[57] Yáñez, *Lean Lands*, 184; "Traigo suficientes recursos para salvar al Llano de la miseria" (427).

[58] Yáñez, *Lean Lands*, 120; Yáñez, *Tierras flacas*, 367. "reforestación, defensa de suelos, introducción de pastos nuevos, perforación de pozos, construcción de presas, apertura de caminos, sustitución de la agricultura por la ganadería, variación de cultivos remunerativos; uso de abonos, de semillas mejoradas y de maquinaria; industrialización de productos; explotación de los bosques en la sierra de Cardos; posibilidades mineras de la region; influencias y poder político, dinero y disponibilidades financieras."

[59] Yáñez, *Lean Lands*, 221; Yáñez, *Tierras flacas*, 462."Lo [al pueblo] avivaron palabaras nuevas, nuevos rumores: pozo artesiano, veleta. Una entre las palabras de nueva circulación: cisterna, corrió como caricia en orejas y lenguas ávidas."

[60] Yáñez, *Lean Lands*, 276; Yáñez, *Tierras flacas*, 518. "Otra sorpresa, y grande, fue comparar la Gloria con que se daban las milpas abonadas y de semilla escogida, frente al crónico raquitismo de las demás; tan fuertes eran las primeras, que resistieron las granizadas de junio, lo cual también pareció cuestión de milagro."

[61] Yáñez, *Lean Lands*, 185; Yáñez, *Tierras flacas*, 429. "¡Electricidad! La palabra conmociona. Jacob también asegura que antes de las aguas la traerá, y que habrá focos de luz."

[62] Yáñez, Lean Lands, 327; Yáñez, Tierras flacas, 567. "Jacob y su séquito treparon precipitadamente al tablado; el contacto de la corriente quedó hecho sin más. Al encenderse los hilos de focos, fue unánime la exclamación de sorpresa . . . . Fulguró nuevo relámpago, seguido de un furioso trueno. Comezaron a caer, sonoras, dispersas, grandes como tostones, las primeras gotas de la tormenta."

[63] Yáñez, "Yahualica. Etopeya," in *Imágenes y evocaciones*, 324.

[64] This is an inverse disjuncture to the one Jean Franco identified in Yáñez's previous novel: although "La tierra pródiga's explicit content corresponds to the years 1953-59 . . . the key image . . . has 1928-30 as a creation date" (530). See Jean Franco, *Lectura sociocrítica de la obra novelística de Agustín Yáñez* (Guadalajara: UNED, 1988). Franco is a French critic who should not be confused with the homonymous British professor of Latin American literature.

[65] In this sense, it is useful to compare the novel with *Por las tierras de Galicia*, a collection of short essays and memoirs on a region of the Altos de Jalisco that presents strong affinities with Tierra Santa. Yáñez composed this piece between 1928-30, that is, a few years after the time the novel's characters would presumably have started to experience the changes brought by the Gallos. None of these changes is mentioned in the essay, which devotes its last chapters to a narration of agricultural practices. Although they were written in an evocative style, these essays indent to draw a clear picture of the region. The fact that the changes so determinant in the novel are mostly absent from these early essays suggests that they drew Yáñez's attention in later decades, when the effects of the Green Revolution and other technologic transformations could be more intensely perceived. See Agustín Yáñez, "Por tierras de Nueva Galicia," in *Imágenes y evocaciones*, 101-226.

[66] Yáñez, *Lean Lands*, 145; Yáñez, *Tierras flacas*, 391, italics in original omitted in the translation. "*La horrible aparición del Demonio Satanás en forma de animal volador que causa mortandades por donde pasa en los ranchos de Tierra Santa*."

[67] Yáñez, *Lean Lands*, 244; Yáñez, *Tierras flacas*, 486. "Indicio de que sería mal año, . . . apareció la confirmación de que la electricidad y las otras hechicerías de los Gallos serían la ruina de la Tierra Santa; Jacobo en efecto era un masón, un protestante, un descristianizador."

[68] Yáñez, *Lean Lands*, 157; Yáñez, *Tierras flacas*, 402. "reliquia."

[69] Yáñez, *Lean Lands*, 125; Yáñez, *Tierras flacas*, 372. "carácter agorero de la comarca"

[70] Yáñez, *Lean Lands*, 157; While I do argue in this essay that *Las tierras flacas* echoes deeper anxieties about the implications of agricultural change in Mexico in the mid-twentieth century that are not reducible to its characters' superstitious behavior, I partially agree with Ramona Lagos when she states that Yáñez "attributes to the ranchers characteristics that the intellectual middle class and the Mexican bourgeoisie believe they have, transforming them into folkloric beings, legendary figures, Manichean and schematic," "*Las tierras flacas*: Capitalismo agrícola e ideología." *Nueva Narrativa Hispanoamericana* 4 (1974): 168. Las tierras flacas is, in my view, a curious case in which a "psychological density" (76) that José Luis Martínez identifies in this novel's characters co-exists with their stereotypical characterization. See José Luis Martínez, *Vida y obra de Agustín Yáñez*, (México: CONACULTA, 2004).

[71] Martin Heidegger, "The Question Concerning Technology," in *The Question Con-*

cerning Technology and Other Essays, trans. William Lovitt (New York: Garland Publishing, 1977), 20.

[72] I refer here to the act of Enframing (*Gestell*), that is, of ordering the real as resources ready to be used.

[73] The University of Chicago's Humanities Division Council generously supported the production of this article.