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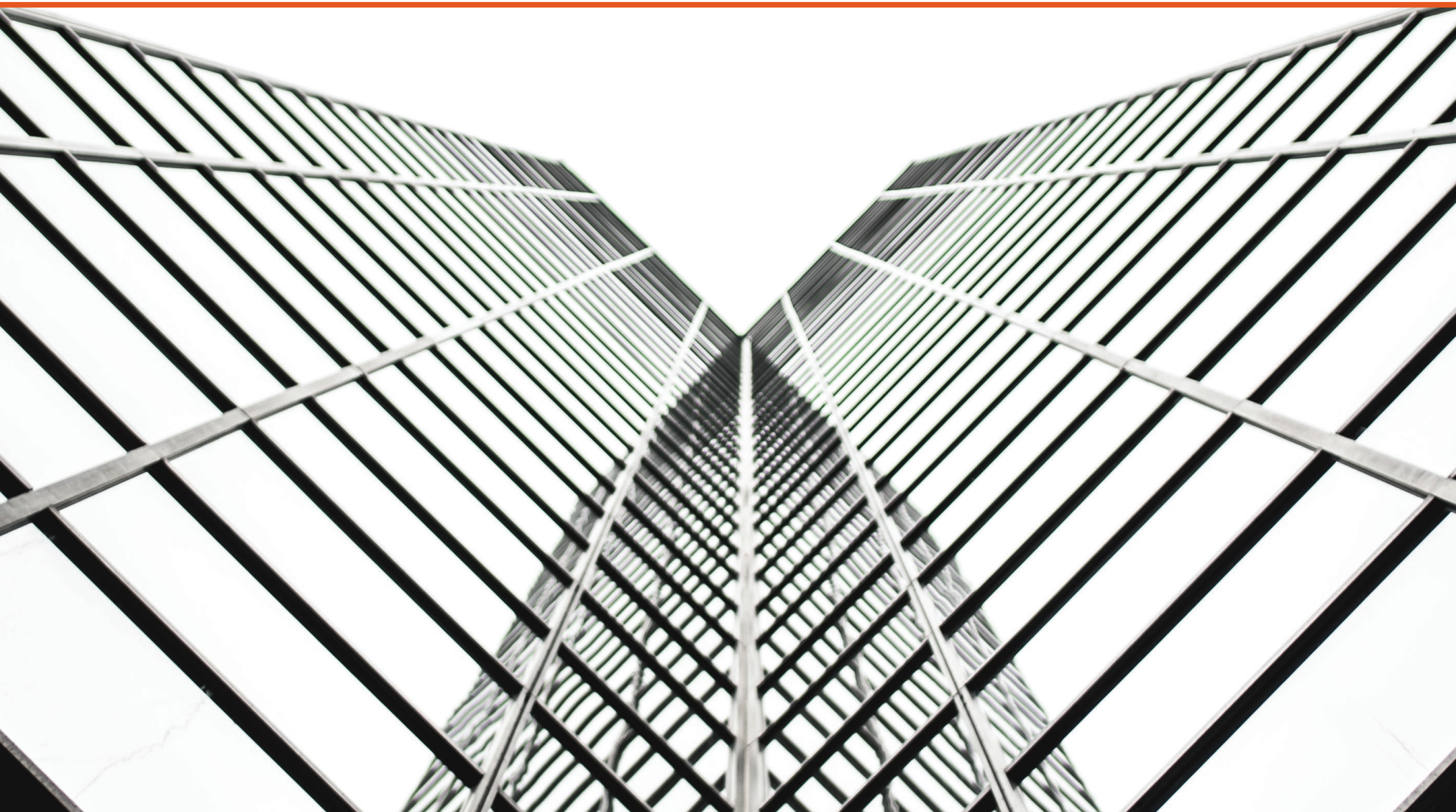

Revolution, Renewable:
Subsoil Political Ecologies in Rivera's *Song of the Earth*

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Diego Rivera's bright, 41-part fresco series in the former baroque chapel of Chapingo's Autonomous University has been called "the Sistine Chapel of the Twentieth Century," an analogy which draws our attention to the exhaustive, global treatment of the space's interior, and the abundance of nude, muscular bodies against brightly colored backdrops which evoke its Italian counterpart (fig. 1).[1] The product of land distribution following the Mexican revolution, the university had only recently been established as an agricultural school when Rivera received the commission in 1924. The work's title, *The Song of the Earth and Those who Till and Liberate It,* highlights two central themes: the natural world, and the political liberation that unfolds in relation to it. In a brilliant use of space, and as a nod to the university's educational purpose, the parallel East and West walls of the chapel show the twin trajectories of political revolution alongside the progression of natural forces of the earth. The five-part revolutionary tale on the West wall traces the organization, violent struggle, and triumph of Mexican peasants, neatly mirroring their equivalents on the East wall's *Song of the Earth,* which represents the latent energy, germination,

Unless otherwise indicated, translations are mine.

[1] Andre Michel, *Histore de l'art,* (Paris, 1929). Quoted in David Craven, *Art and Revolution in Latin America, 1910-1990* (New Haven: Yale University Press, 2002), 51. Michel writes that the "chapel of Chapingo… is the Sainte-Chapelle of the Revolution, the Sistine Chapel of the New Age,." and describes its "double genesis of nature and man."

and flowering fruit of earthly matter and plant life. Situated beneath the many painted, floating bodies of the vaulted ceiling, the two progressions meet at the apse, "The Liberated Earth with the Powers of Nature Controlled by Man," in which a pregnant nude emerges from a hollow in the soil surrounded by male figures who convert wind, fire, and water into the modern industrial commodity of electricity.

Completed in 1927, the frescoes at Chapingo are explicit in their homage to the recently-concluded Mexican revolution. They are just one of many commissions generated in the wake of the revolution to promote post-revolutionary ideals and their attendant regimes. The unsubtle gender binary is similarly of its time, following well-worn tropes equating women with the earth.[2] But the mural series is also highly unusual for the prominent place it affords the subsoil. Certainly no other fresco from post-revolutionary Mexico so explicitly imbricates revolution with subsoil ecologies. Indeed, Rivera's *Song of the Earth and Those who Till and Liberate It* is a story driven not by traditionally legible natural-world signifiers of flora, fauna, and agricultural labor, but rather by the representationally-resistant stuff of the earth's interior. Rivera's parable of revolution is rooted in the unequal distribution of Mexico's mineral wealth, which led exploited miners into armed rebellion. It was presumably referencing the uprisings in the prelude to the Mexican revolution against both mining companies and the Porfirian regime which had enabled their existence. On the East wall, allegorical female nudes represent the geological and biological forces below ground which form life itself. "Subterranean Forces,'' for instance, is a dramatic representation of the powerful agency of subterranean material through a woman's brown, muscular, nude body, backlit by the bright oranges behind her (fig. 2). Standing on a rocky outcrop of colorful, crystalline gems, the woman crouches at the convergence of two canals of fiery liquid, whose movement transports two sleeping women upwards. Her outstretched arms also point upwards, harnessing the energy and potential of heat and mineral matter. The scenes that succeed it on the East wall reveal the germination and birth of humans rendered as seedlings, their bodies incubating in a fleshy pink womb below ground and sprouting, like plants, into their surface (fig. 3).

Despite the environmental significance of the way humans have brought to the surface and combusted subterranean material, the relative difficulty of depicting the underground has made it a problematic object of visual inquiry. Seen as separate from the minerals that lie beneath it, traditional representations of land envision the

[2] Dina Mirkin complicates this argument by suggesting that the female allegorical figures on the East wall are represented as forceful and central to the cause of revolution on the West wall. See Dina Mirkin, "Women, Agriculture, and Civilization in Diego Rivera's Murals of Chapingo." *Aurora: The Journal of the History of Art* 9 (2008): 101–15.

earth and its attendant geopolitical boundaries as a surface.[3] When visualizations of earthly depth do exist, they generally render the underground as an isolated "store house" for raw materials and waste, positioned as an abstract value in terms of its future use for humans.[4] Yet at Chapingo, Rivera positions the subsoil not as a repository for inert resources, but rather as part of a complex ecology with interdependent links to the revolution: in addition to having its own autonomous life cycle, it is the dynamic source of both fuel and food for human economies. Finally, the subsoil also figures on both walls as a resting place for the revolution's dead, their bodies situated dually as a conclusion and yet also a source of life, fertilizing the organisms around them.

This paper argues that in centering the interior of the earth as crucial to the political goals of the revolution, Rivera contests not only the ownership of subsoil resources, but also capitalist epistemologies of the subsoil and their understanding of the relationship of the subsoil to social and political ecologies. In *The Song of the Earth and Those who Till and Liberate It,* the liberation of both people and the earth are cast not as linear teleologies with fixed endpoints, but rather as cyclical temporalities of constant renewal. These cycles are depicted not as parallel, but rather as interdependent life cycles of a larger ecology; the resulting deaths of the West wall's revolution are figured as elemental geneses of the East wall's cycle of organic life. The Chapingo murals thus reveal an important complexity to Rivera's revolutionary ideology: a belief in the *mutual dependence* between environmental sustainability and the equitable distribution and control of resources. Ultimately, these murals reflect the extent to which in post-revolutionary Mexico, the renewability of subsoil resources was not seen as just important to the success of revolutionary goals, but also dependent upon them.

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[3] Mark Anderson discusses the need for more volumetrically complex understandings of the earth in his chapter on depth and geopolitics. He discusses the ways in which traditional cartographic renderings of the earth render it as both a surface and an abstraction, which obfuscates possibilities of ecological, interconnected relationships. See Mark Anderson, "The Grounds of Crisis and the Geopolitics of Depth," in *Ecological Crisis and Cultural Representation in Latin America: Ecocritical Perspectives on Art, Film, and Literature*, ed. Mark Anderson, and Zélia Bora (New York: Lexington Books, 2016), 99–125.

[4] Jason Weems, in his study of the role of subterranean cartography in landscape and visions of the American West, has helpfully traced the development of stratigraphy in the late-nineteenth century as a solution for mapping an underground world that is inherently shrouded from view. Weems points out that stratigraphy is necessarily an abstraction: "Where the surface could (conceivably) be everywhere viewed and verified, the subterranean had to be extrapolated from limited samples." See Jason Weems, "Stratifying the West: Clarence King, Timothy O'Sullivan, and History," *American Art* 29, no. 2 (2015): 38.

It is significant that in the antechamber of the chapel, Rivera begins the parable of social transformation and revolution with a scene from the interior of a mine next to a political revolutionary (fig. 4). Entitled "The Agitator," the frame is split in two. On one side, brawny white men chip away at brittle, gray ore, wearing very little in the way of clothing but donning electronically equipped hard hats and power drills. The whiteness of their skin is conspicuous against the darkness of their subterranean backdrop, but also in comparison to the crowd of brown farmers looking angrily in their direction. The binary tension in this scene between a large group of indigenous farmers and a small group of white men extracting mineral resources would have undoubtedly been legible to Mexicans in the years following the revolution. Most likely, it was meant as an image of the pre-revolutionary mining economy under Porfirio Diaz in which the dictator's encouraging attitude towards white foreign investors, particularly from the United States and the United Kingdom, resulted in uneven economic development, disastrous environmental damages to indigenous communities, and an attendant atmosphere of resentment towards Anglo-owned mining companies. This smoldering inequality had been a driving force behind the stipulations of the 1917 constitution, and in particular Article 27, which specifically incorporated measures to ban foreign mine ownership. Undoubtedly the most well-known and discussed article of the constitution, Article 27 claimed mineral wealth as "patrimony" and aimed to redistribute its use rights to the people of Mexico.[5] In practice, however, threats of political retaliation from the United States had been so dramatic that leaders found the article scarcely worth enforcing, and the post-revolutionary Mexico in which these murals were painted still contended daily with the forces of foreign extractive capitalism.

"The Agitator'' thus might be read as representing the more recent years following the ratification of the constitution in which the murals were completed. In locating the genesis of revolution in the unequal distribution of subsoil resources, Rivera directly referenced Article 27.[6] In the following scene, "Formation in Leadership," a miner exits the mine shaft only to be humiliated by his boss in a pat-

[5] The article asserted that "In the Nation is vested direct ownership of all minerals . . . such as . . . petroleum and all solid, liquid, or gaseous hydrocarbons." See Jonathan C. Brown, *Oil and Revolution in Mexico* (Berkeley: University of California Press, 1992), 226. For a discussion of mines as patrimony, see Elizabeth Emma Ferry, *Not Ours Alone: Patrimony, Value, and Collectivity in Contemporary Mexico* (New York: Columbia University Press, 2005).

[6] Raquel Tibol describes the panel as "denunciando así el incumplimiento de la constitución de 1917, que en artículo 27 señala: *corresponde a la nación el dominio directo de todos los minerales o substancias que en vetas, mantos, masas o yacimientos constituyan depósitos cuya naturaleza sea distinta a los componentes de los terrenos, tales como los minerales de los que se extraigan metales y metaloides utilizados en la industria."* See Raquel Tibol, *Los Murales de Diego Rivera, Universidad Autónoma de Chapingo* (México: Editorial RM, 2002), 102.

down. This surveillance highlights the injustice and irony of the policing surrounding indigenous "theft" of a fortune that had been declared the birthright of the Mexican people (fig. 5). Indirectly, the chapel bears the traces of both of the article's two key provisions. Beyond the more internationally controversial provision that all minerals, fuels, and inorganic material within the subsoil become the inalienable property of the nation state, the article also enabled the redistribution of over 100 million hectares of land to peasants for collective farming. The reference to Article 27 was therefore especially appropriate at Chapingo: as an agricultural school tasked with educating rural farmers on innovative practices of farming and land stewardship, it was a suitable backdrop for a mural which dealt unambiguously with the rights of rural workers to Mexico's subsoil and agricultural land.

Given Rivera's well-documented dedication to communism, his sympathy for a model of indigenous, collective ownership over resources is hardly surprising. Symbols of the Marxist and indigenous frameworks behind the constitution's proposed *ejido* system of communal use rights for mines and agricultural land are legibly honored at Chapingo. A hammer and sickle can be found not only at the tip of the Agitator's fingers, but also in the final bay of the ceiling vaults, entitled "The Gifts of the Earth Rightfully Possessed" (fig. 6). It leaves little doubt about the identity of the rightful owners of the resources on display at the chapel: the indigeneity of the final bay's two central bodies is thrust into high relief in comparison with the previous two bays, which centered first white and then mestizo bodies. The bays, which proceed according to the process of the revolution, thus locate victory specifically in the bodies of indigenous people in pointed contrast to white or mestizo ones.

Rivera's commitment to the liberation of indigenous people through communism is well known. Less well studied, however, are the ways in which his political allegiances included a complex engagement with environmental justice. What is on view at Chapingo, I am suggesting, bridges a condemnation of capitalism's unequal distribution of natural resources among humans with a condemnation of capitalism's effect on the environment itself. The chapel's title, for instance, *The Song of the Earth and Those who Till and Liberate It*, positions the earth as the immediate subject of a liberation orchestrated by agricultural workers. Rivera's anthropomorphisation of the earth solicits moral outrage for an environment enslaved by capitalist exploitation but nevertheless animate and conscious of its own captivity. In perhaps the most obvious denouncement of capitalism's effect on the natural world, a nude woman turns her head and body away from us in shame, surrounded by a leafy tree and shards of glass (fig. 7). Titled "The Oppressed Earth," the panel sits above "Formation in Leadership," excoriating clearly the effects of imperialist mining. A fat, shirtless man wearing flashy gold jewelry and standing in

front of a bag of money trains his ugly gaze outward at us, hands on his paunch, as if to guard her. The military and the clergy guard her from other angles, suggesting the tripartite forces of liberal imprisonment and wrongful objectification of the land.

Rivera, in other words, was not simply critiquing those who owned the subsoil, but also *how* it was owned, and indeed perceived, under the models of ownership which enabled capitalist exploitation. As proponents of deep ecology have pointed out, to conceive of nature as private property is to anchor its ontological status to human use, thereby alienating it from all other networks of life, particularly its non-human ecosystems.[7] Contemporary ecocritics have furthermore described the ways in which extractive capitalism benefits from the perceived isolation of inorganic materials such as minerals, fossil fuels, or soil, from other organic life cycles.[8] By contrast, Rivera not only animates the subsoil's inorganic contents, but instills in them a kind of relational dynamism. The powerful, spirited force of geological wealth represented on the East wall becomes the basis not just for the extractive exploitation on the West wall, but also for the plasmic subterranean womb in which life germinates in the next two scenes. Reinforced by the tessellated connections of the vaulted ceiling, which lead the viewer's eye through vertical as well as horizontal associations, the chapel renders the *Song of the Earth* as a complex web at once autonomous and interconnected with human life.

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[7] The Norwegian philosopher Arne Naess coined the term "deep ecology" in an influential 1986 paper in which he critiqued existing models of environmentalism for their anthropocentrism, arguing instead that non-human nature has intrinsic value outside of its use for humanity. Deep ecology furthermore advocates for a holistic view of the environment as an interconnected, living organism. Since then, ecocritics have highlighted the anthropocentrism of liberal concepts of private property, which construct nature as an *object* whose ontological status is defined by the property relationships of human *subjects.* See Jason W. Moore, *Capitalism in the Web of Life: Ecoology and the Accumulation of Capital* (New York: Verso, 2015); Helena R. Howe, "Making Wild Law Work—The Role of 'Connection with Nature' and Education in Developing an Ecocentric Property Law," *Journal of Environmental Law* 29, no. 1 (March 1, 2017): 19–45; and Arne Naess, "The Deep Ecological Movement: Some Philosophical Aspects," *Philosophical Inquiry* 8, no. 1/2 (1986): 10–31.

[8] In his study of Mexican subway and hydrology systems, Mark Anderson has critiqued the human-centric models of private property which "diminish ecologically complex volumes to schematic areas" and which exist under regimes of extractive capitalism: "In the neoliberal conceptualization of space… mining is not viewed in terms of vertical depth or geological time, but rather as a question of retrieving elements that are proper to the surface and crystallizing them into the configurations of the present. The underground is a mere vault, a sub-terra, a non-environment whose only purpose is to store commodities until future demand endows them with sufficient value to warrant extraction or to house waste so that it does not reduce the value of surface land." See Anderson, "The Grounds of Crisis and the Geopolitics of Depth: Mexico City in the Anthropocene," 110.

The former chapel at Chapingo was painted at a moment marked by conflict surrounding private property, conservation, and the subsoil's ecological importance. Article 27 had, at least in theory, promised to end the subsoil's commodification and exploitation for endless profit by prohibiting its ownership as property and, in particular, its alienation.[9] Many of its core draftsmen had been conservationists who had concluded, upon observing the rapid depletion of resources directly caused by extractive industries, that the pursuit of profit was contradictory to the project of national resource stewardship.[10] This conservationist logic nevertheless positioned subsoil material as a "resource" awaiting exploitation by humans rather than as an active participant in a non-hierarchical ecosystem.[11] The early 1920s, however, saw massive labor strikes and agitation on the part of indigenous miners and oil workers surrounding the persistence of foreign mining operations, but also, radically, the devastation wrought by extraction on entire ecosystems.[12] Rather than simply warning of the ephemerality of geological reserves, indigenous leaders and workers decried the effects of extraction on interdependent mechanisms of soil, water, and forests. For the first time, Mexican biologists who positioned the natural world not just as a resource but as part of a carefully calibrated network with independent causal nexuses gained mainstream attention.

Furthermore, as Christopher Boyer and Emily Wakild have pointed out, the environmental agitation of post-revolutionary Mexico also saw the emergent articulation of ecology as a living system which not only serves but is constitutive of

[9] Brown, *Oil and Revolution in Mexico,* 226. The constitution's language did indeed reserve for the nation the right to reject private property anywhere: "The Nation shall at all times have the right to impose on private property such limitations as the public interest may demand." It furthermore insisted that, as the newly inalienable property of the nation, subsurface minerals and fuel were excluded from "alienation rights" and thus could not be owned by any one group of people or alienated from the nation which owns them. It still, however, granted "use rights," a concept which many activists hoped would mean sustainable community use, but which ultimately became much more complicated with the nationalization of Mexican oil. "Use rights" itself was much more easily applied to land grants than mineral resources since "using" a nonrenewable resource by exchanging it for money amounts to alienation. The tensions and contradictions between use rights and alienation rights in mines are furthermore explored in Ferry, *Not Ours Alone.*

[10] For a case-study of the environmental implications of Article 27 on the Huastec people and the oil industry, see Myrna Santiago, *The Ecology of Oil: Environment, Labor, and the Mexican Revolution,* 1900-1938 (New York: Cambridge University Press, 2006).

[11] Santiago, *The Ecology of Oil,* 258-162.

[12] Ibid., 272-278.

and dependent upon human political and economic ecologies.[13] This movement would reach its most famous and developed achievements in the ascent of president Lázaro Cárdenas, who made the subsoil a driving force for his campaign in 1934 and who most famously wrested all petroleum from foreign hands in 1938. In what Boyer and Wakild have called "social landscaping," the Cárdenas regime seized upon the environment, its ownership, and stewardship as inextricably bound with a framework of socialist equity.[14]

Indeed, Rivera frames political development not so much as running parallel to biological life cycles, but as part of a greater, more holistic ecosystem with a reciprocal, cyclical relationship to the unfolding of human history. Rather than the Marxist construction of the path between capitalist exploitation, proletarian uprising and communist utopia as a linear, teleological inevitability, Rivera positions the revolution as critical to a temporality of constant renewal.[15] In the panel that represents the death and violence of revolution, three grieving, cloaked women, surrounded by mottled, brown soil, bury a body beneath the roots of a tree that grows above them (fig. 8). Entitled "The Constant Renovation of Revolutionary Struggle," it points to a concept of revolution as a recurring, continuous process. It also signals the generation, as well as the conclusion, of life: in the next, and final scene, the same tree ultimately blossoms, surrounding the group of people who share food, perhaps from its branches. Rather than a singular endpoint in a linear path towards a singular goal, revolutionary struggles are here described as part of an ongoing cycle of life and death. Death and martyrdom at Chapingo are not positioned as endpoints, but as beginnings directly related to cycles of life, and as necessary ingredients for renewability.

Significantly, the notion that slain revolutionaries fertilize the soil and were thus active participants in an interconnected, cyclical narrative of life appears also on the East wall, as the antecedent to "Subterranean Forces" and the very beginning to the *Song of the Earth*. In the antechamber, the dead bodies of Emiliano Zapata and Otilio Montana rest in the soil below a crop of corn which grows above them (fig. 9). A myriad network of roots reaches the cavities that encase their body, or

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[13] Christopher Boyer and Emily Wakild, "Social Landscaping in the Forests of Mexico: An Environmental Interpretation of Cardenismo, 1934-1940," *Hispanic American Historical Review* 92, no. 1 (2012): 73–106.

[14] Boyer and Waklid write that "unlike the productivist model that appeared in the United States around the same time…. Cardenista social landscaping sought to match development plans with specific social needs and environmental conditions." See Boyer and Wakild, "Social Landscaping in the Forests of Mexico," 76.

[15] David Craven begins to discuss Rivera's relationship to Marxist positivist determinism at Chapingo in relationship to race and indigenism. See Craven, *Art and Revolution,* 54.

perhaps encapsulating the bodies within the system of plant growth above them. A giant starburst is perhaps ambiguously denotative of a sun or a flower, suggesting alternatively a force that both gives to the soil and receives from it. A dedication panel pays tribute to the life-generating properties of revolutionary bodies, clarifying that the fresco series is dedicated to all people who work the land and "land fertilized with the blood, bones, flesh, and thought of those who knew how to sacrifice."[16]

The revolution thus becomes part of a larger cycle of mutually sustaining forces. A robust, thriving subterrain and the development of life enable the abundant, post-revolutionary Mexico on view at the apse. But their continued use is also enabled *by* the revolution; the casualties of its triumph set in motion a chain of bountiful, fertile regeneration. Amidst a post-revolutionary Mexico, which was grappling with the roles of conservation and the subsoil in campaigns for political justice, Rivera predicated the success of revolutionary goals and the renewability of subsoil resources upon one another.

[16] Originally in Spanish, this portion of the dedication panel reads: "*tierra abonada con la sangre, los huesos, la carne y el pensamiento de los que supieron llegar al sacrificio.*"